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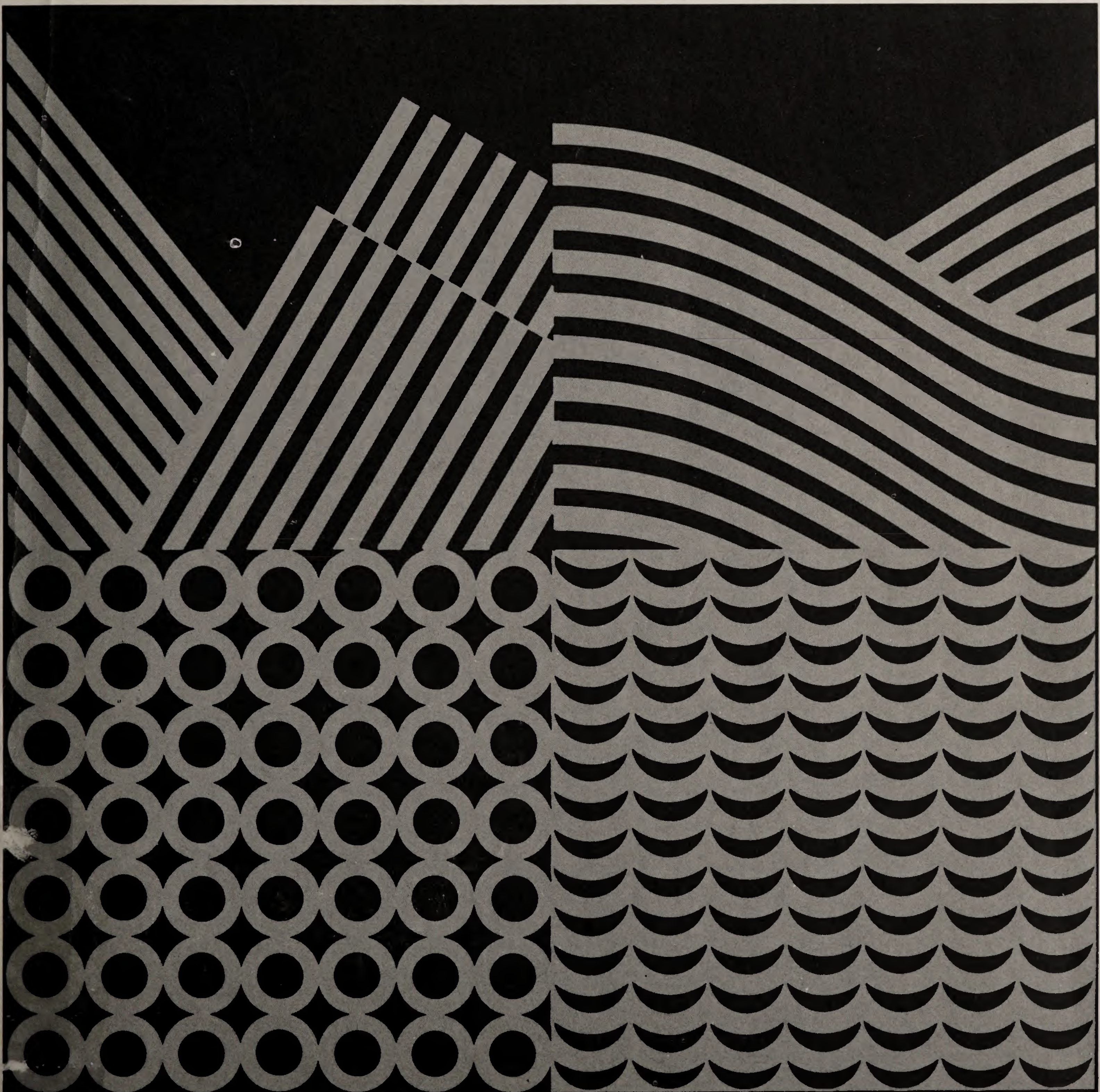
Permanent Regulatory Program Implementing Section 501(b) of the Surface Mining Control and Reclamation Act of 1977

Final Environmental Statement
OSM-EIS-1

U.S. Department of the Interior
Office of Surface Mining Reclamation and Enforcement



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Permanent Regulatory Program Implementing Section 501(b) of the Surface Mining Control and Reclamation Act of 1977

Final Environmental Statement
OSM-EIS-1

January 1979

Walter N Heine
Director

SUMMARY

Draft ( ) Final (X) Environmental Statement

Department of the Interior, Office of Surface Mining Reclamation and Enforcement

1. Type of Action: Administrative (x) Legislative ( )

2. Brief Description of Action:

The proposed action is the promulgation of a permanent regulatory program by the Office of Surface Mining Reclamation and Enforcement under Section 501(b) of the Surface Mining Control and Reclamation Act of 1977 (SMCRA or the Act). The program to be promulgated under authority of this section of SMCRA consists of three major components:

- Regulations concerning environmental and public health and safety performance standards, permit applications, and bonding requirements for surface coal mining and reclamation operations;
- Regulations covering the procedures for preparation and submission of State programs to control surface coal mining and reclamation operations for the Secretary's approval including the substantive review criteria used for approval; and
- Regulations governing development and implementation of a Federal program for a State.

3. Summary of Environmental Impacts:

Because the general purpose of SMCRA is to establish nationwide regulations for the protection of society and the environment from the adverse effects of surface coal mining operations, the major environmental impacts tend to be beneficial measures which mitigate adverse effects of such operations. Major beneficial effects attributable to the preferred alternative include:

- Restoration of mined land to approximate original contour.
- Reconstruction of soil by removal and replacement of topsoil to provide a favorable condition for revegetation and, by additional requirements, to ensure restoration of productivity of prime farmland soils.
- Protection of the quality and quantity of surface and ground water, with particular restrictions for protection of the hydrologic characteristics of alluvial valley floors.

- o Restoration of the diversity and productivity of vegetation after mining.
- o Enhancement of fish and wildlife resources and added protection to threatened and endangered species on non-Federal lands.
- o Protection of cultural resources on non-Federal lands.
- o Enhancement of land uses through controlled changes in the postmining land use and variances to approximate original contour for residential, commercial, industrial or recreational uses.
- o Assurance that lands disturbed by mining will be restored to a condition capable of supporting the premining use of the land or a higher or better land use.
- o Designation of lands unsuitable for all or certain types of coal mining operations when it is not technically and economically feasible to reclaim the lands or when the lands possess certain types of resources that should be protected.

Implementation of the proposed program will also have the following major adverse impacts:

- o Certain of the regulations will preclude or delay recovery of coal.
- o Design requirements for certain types of structures will increase the amount of land disturbed for certain of those structures.
- o Existing structures that do not meet the performance standards will have to be reconstructed so as to meet both the design and performance standards.

4. Alternatives Considered:

Alternatives considered include:

- o The alternative of taking no action.
- o Promulgation of a regulatory program based on goals or objectives which would allow the States to establish specific requirements for compliance with SMCRA.
- o Promulgation of a regulatory program based on regulations more stringent than those proposed.
- o Promulgation of a regulatory program based on regulations less stringent than those proposed.

5. Comments on the Draft Environmental Statement

Comments on the draft environmental statement were requested from the Federal agencies and State Clearinghouses shown on Summary Attachment 1. Copies of the final environmental statement are being sent to all who commented on the draft statement or requested a copy of the final statement.

6. Date draft statement was made available to EPA and the public: October 4, 1978

7. Date final statement made available to EPA and the public:

SUMMARY ATTACHMENT I

Comments have been requested from the following:

Federal

Department of the Interior

Bureau of Indian Affairs
Bureau of Land Management
Bureau of Mines
Bureau of Reclamation
Fish and Wildlife Service
Geological Survey
Heritage Conservation and Recreation Service
National Park Service
Office of Minerals Polisy and Research Analysis
Office of Water Research and Technology

Other Federal Agencies

Department of Agriculture
Department of Commerce
Department of Defense
Department of Energy
Department of Health, Education and Welfare
Department of Housing and Urban Development
Department of Labor
Department of Transportation
Appalachian Regional Commission
Community Services Administration
Council on Historic Preservation
Council on Wage and Price Stability
Environmental Protection Agency
General Services Administration
Interstate Commerce Commission
Office of Management and Budget
River Basin Commission (as geogaphically appropriate)
Tennessee Valley Authority
Water Resources Council

State

Alabama Surface Mining Reclamation Commission
Alaska Department of Natural Resources
Arizona State Land Department
Arkansas Department of Pollution Control and Ecology
California Department of Natural Resources
Colorado Department of Natural Resources
Connecticut Department of Environmental Protection
Delaware Department of Natural Resources
Florida Department of Natural Resources

State -- Continued

Georgia Department of Natural Resources
Hawaii Department of Land and Natural Resources
Idaho Department of Lands
Illinois Department of Mines and Minerals
Iowa Department of Soil Conservation
Kansas State Corporation Commission
Kentucky Department for Natural Resources
Louisiana Office of Conservation
Maine Department of Environmental Protection
Maryland Energy and Coastal Zone Administration
Massachusetts Department of Public Works
Michigan Department of Natural Resources
Minnesota Department of Natural Resources
Mississippi Geological, Economic and Topographical Survey
Missouri Department of Natural Resources
Montana Department of State Lands
Nebraska Office of State Planning and Programming
Nevada Department of Conservation and Natural Resources
New Hampshire Department of Forests and Lands
New Jersey Bureau of Geology and Topography
New Mexico Bureau of Mines and Minerals Resources
New York Department of Environmental Conservation
North Carolina Department of Natural REsources
  and Community Development
North Dakota Public Service Commission
Ohio Department of Natural Resources
Oklahoma Department of Mines
Oregon Department of Geology and Mineral Industries
Pennsylvania Department of Environmental Resources
Rhode Island Department of Administration
South Carolina Department of Mining and Reclamation
Tennessee Department of Conservation
Texas Railroad Commission
Utah Department of Natural Resources
Vermont Agency of Environmental Conservation
Virginia Department of Conservation and Economic Development
Washington Department of Natural Resources
West Virginia Department of Natural Resources
Wisconsin Department of Natural Resources
Wyoming Department of Environmental Quality

State Clearing Houses

All State Clearinghouses listed in OMB Circular A-95

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INCH-POUND TO METRIC CONVERSION

Inch-pound unit	Multiplied by	Equals metric unit
Inch (in)	2.54	Centimeter (cm).
Foot (ft)	3.048×10^{1}	Centimeter (cm).
	3.048×10^{-1}	Meter (m).
Mile (mi)	1.609	Kilometer (km).
Square foot (ft^2)	9.290×10^{-2}	Square meter (m^2).
Acre	4.047×10^{-1}	Hectare (ha).
	4.047×10^{-3}	Square kilometer (km^2).
Acre-foot (acre-ft)	1.233×10^{3}	Cubic meter (m^3).
	1.233×10^{-3}	Cubic hectometer (hm^3).
Cubic yard (yd^3)	7.646×10^{-1}	Cubic meter (m^3).
Pound (lb)	4.536×10^{-1}	Kilogram (kg).
Short ton (ton)	9.072×10^{-1}	Metric ton (t).
Pound per acre (lb/acre)	4.883	Kilogram per hectare (kg/ha).
British thermal unit per pound (Btu/lb)	2.326	Kilojoule per kilogram (kJ/kg).
Gallon (gal)	3.785×10^{-3}	Cubic meter (m^3).
Gallon per minute (gal/min)	6.309×10^{-2}	Liter per second (L/s).
Degree Fahrenheit (°F)	(1)	Degree Celsius (°C).

---

[1] Temperature in °C = (temperature in °F-32)/1.8.

ABBREVIATIONS

BLM	Bureau of Land Management
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
DES	Draft environmental statement
DOE	Department of Energy
DOI	Department of the Interior
DOT	Department of Transportation
EIS	Environmental impact statement
EPA	Environmental Protection Agency
FEA	Federal Energy Administration
FES	Final environmental statement
F.R.	Federal Register
FWS	Fish and Wildlife Service
GAO	General Accounting Office
GNP	Gross national product
HCRS	Heritage Conservation and Recreation Service
MSHA	Mine Safety and Health Administration
NAS	National Academy of Science
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NRC	National Research Council
OSHA	Occupational Safety and Health Administration
OSM	Office of Surface Mining Reclamation and Enforcement
RA	Regulatory analysis
SCS	Soil Conservation Service
SMCRA	Surface Mining Control and Reclamation Act of 1977
TVA	Tennessee Valley Authority
USAF	U.S. Air Force
USBM	U.S. Bureau of Mines
U.S.C.	United States Code
USDA	Department of Agriculture
USGS	U.S. Geological Survey

Part A:
Statement of Environmental Impact

PART A: STATEMENT OF ENVIRONMENTAL IMPACT

Section I: Introduction

The Surface Mining Control and Reclamation Act of 1977, Public Law 95-87, 30 U.S.C. 1201 *et seq.*, requires the Secretary of the Interior (the Secretary) to promulgate permanent regulatory procedures for surface coal mining and reclamation operations (Section 501(b)). This regulatory program is intended to control the adverse environmental effects of surface coal mining, underground coal mining, and coal exploration. These regulations are the Federal action evaluated in this environmental impact statement (EIS). The Director, Office of Surface Mining Reclamation and Enforcement (OSM) implements the Secretary's authority to regulate surface coal mining and reclamation operations. This EIS analyzes the environmental consequences of the permanent program regulations (30 CFR Part 700 *et seq.*), as included in Appendix C.

The regulations in Appendix C represent the preferred alternative analyzed in this EIS. The Secretary and the Director of OSM retain the option, after review of this EIS, to change any component of the appended rules or to select one of the alternatives between the time of release of this EIS and promulgation of the final rules.

The preamble to the proposed regulations (43 FR 41662-41779, September 18, 1978) contains, in various sections, descriptions of the proposed regulations as well as detailed discussions of alternatives considered by OSM to individual parts or sections of the regulations as proposed on September 18, 1978.

This EIS has sought to reference sections of the regulations wherever appropriate. The reader is encouraged to read those referenced sections.

For the purpose of analyzing the environmental impacts of the preferred alternative, the Nation has been divided into three regions: the eastern coal region, consisting primarily of the Appalachian coal province; the midwestern region or Interior coal province; and the western region, composed of the Northern Great Plains and Rocky Mountain coal provinces. The regions were chosen because the environmental characteristics of these regions are distinguishable on a level of conceptual detail which is appropriate for analysis in this programmatic EIS. Where possible, the impacts on the environment have been analyzed with a view to variations found within and among the three regions.

This EIS analyzes the degree of change between pre-Act environmental impacts of coal mining and post-permanent regulatory program impacts of coal mining environmentally. In considering the degree of change in the environmental impacts of coal mining which would result from implementation of the preferred alternative, readers should be generally aware of the existing level of Federal and State regulation of coal mining in the country.

Existing Federal regulatory requirements are identified in Part B, Section I.A. Point-source water discharges from coal mines are currently regulated by the Environmental Protection Agency or States with approved National Pollutant Discharge Elimination System programs. The Mine Safety and Health Administration regulates many aspects of coal mining covered in the proposed action but from the perspective of the health and safety of miners. On Federal lands, surface coal mining and reclamation operations are regulated by the Bureau of Land Management and the U.S. Geological Survey under 43 CFR Subpart 3041 and 30 CFR Part 211 as well as by the Federal lands program being promulgated as a part of 30 CFR Chapter VII. The proposed program provides for a uniform degree of protection for the environment and public health and safety, as well as elimination of competitive advantages or disadvantages regardless of whether operations are on Federal or non-Federal lands and regardless of the degree of existing State regulation for non-Federal lands.

The analysis in this EIS is on the total proposed permanent regulatory program under Section 501(b) of SMCRA and not the incremental differences between existing State programs and the proposed program. The base of analysis is pre-Act conditions in general, with specific discussion of regulations existing at that time where data and information have been compiled. State programs have been undergoing change since the passage of SMCRA and the promulgation of the OSM initial program. Because State regulations have been undergoing change, readers should keep in mind when reading this EIS that the net change in environmental impact resulting from coal mining under the proposed permanent program regulations is not from a base of zero, although some analyses may reflect this. Since the base used for analysis does not reflect, for the most part, the most current level of State regulation, the analysis tends to reflect a lower level of existing regulation than actually exists.

The Act provides for the States, if they so chose, to prepare, maintain, and enforce the regulations under individual State programs approved by the Secretary. (See Part A, Section II.) Variations of individual State needs will be considered during the process for approving a State program or for implementing a Federal program for a State, if a State does not choose to participate or is unable to submit or maintain an approvable plan.

OSM has incorporated the following assumptions into its analysis of the environmental impact of the permanent program regulations:

(1) The environment, technology, and energy demand when the regulations go into effect will be substantially the same as that existing in January 1979.

(2) The States will adopt programs that meet the minimum requirements of OSM's permanent program regulations and the Secretary will adopt substantially identical regulations for all Federal programs. This means that the analysis does not account for cases where States wish to implement regulations more stringent than those established as the national minimum in the proposed program or where State programs allow for regional variations.

(3) There will be uniform enforcement by the regulatory authorities and substantially complete compliance by industry.

The agency recognizes that there are potential shortcomings in an analysis based on these assumptions. OSM believes, however, that these minimum assumptions are necessary in order to perform the analysis called for by the National Environmental Policy Act (NEPA). For example, it would be impossible at this time to determine and calculate the effect of State regulatory programs which contain variations in regulations on the basis of a showing, yet to be made, of regional appropriateness and equivalency. Wherever future events or impacts were reasonably predictable, the predicted event or impact was used rather than an assumption. Any significant assumptions made in addition to those listed above have been identified as such in the text of this statement.

In those portions of the EIS which describe how the regulations will change mining practices, the methodology of the analysis has focused on the direct relationship between the regulations, the mining activity, and the environment. This emphasis on direct effects presents a reasonable approach, since the regulations will, in fact, prohibit certain existing mining practices and force the adoption of others which in turn will make mining have a describably different impact upon the environment. Indirect effects of the regulations have also been considered where they will be significant.

As noted in Appendix A (Comment Nos. 8 and 9), the discussion of impacts in the text has been revised to delete the terms major, minor and negligible. The tables of impacts which accompanied the impact discussion in Part B, Section III, have also been deleted. In their place, additional discussion and supportive analysis have been added to clarify the scope, duration and magnitude of impacts.

This EIS follows a nontraditional format. The objective of this format is to address the requirements of NEPA to provide the reader with a brief description of the most critical aspects of the preferred alternative at the beginning of the statement.

The format of this statement consists of two principal parts. Part A, entitled "Statement of Environmental Impact," is a summary of the preferred alternative, the potential environmental impacts resulting therefrom, and the major alternatives to the preferred alternative which were considered by OSM. Part B, entitled "Supporting Analysis and Data," contains the detailed descriptions and analyses of the preferred alternative, environmental impacts, and other alternatives, all of which are the basis for the summaries in Part A.

SECTION II: DESCRIPTION OF THE PROPOSED FEDERAL ACTION

Introduction

The National Environmental Policy Act of 1969 (NEPA) requires that all Federal agencies prepare a detailed statement on major Federal actions significantly affecting the quality of the human environment. To fulfill the requirements of NEPA and of Section 702(d) of the Surface Mining Control and Reclamation Act of 1977 (SMCRA), OSM has prepared this EIS. The major Federal action to be analyzed in this EIS is the promulgation by OSM of national regulations required by Section 501(b) of the Act.

Section 702(d) of the Act states in part that adoption of regulations under Section 501(b) shall constitute a major Federal action subject to the requirements of NEPA. Accordingly, the permanent regulatory program regulations (hereafter "the program" or "the regulations") developed pursuant to section 501(b) are the subject of this EIS.

All of OSM's regulations will be codified in Chapter VII of Title 30 of the Code of Federal Regulations. As currently proposed, Chapter VII will consist of 13 subchapters as follows:

Subchapter A	General.
Subchapter B	Initial Program Regulations (published in "Federal Register," Vol. 42, No. 239, December 13, 1977).
Subchapter C	Permanent Regulatory Program in States.
Subchapter D	Federal Lands Program.
Subchapter F	Areas Unsuitable for Mining.
Subchapter G	Surface Coal Mining and Reclamation Operations Permit System.
Subchapter J	Performance Bonds and Insurance for Surface Mining and Reclamation Operations.
Subchapter K	Permanent Program Performance Standards.
Subchapter L	Inspection and Enforcement.

Subchapter M	Certification and Training of Blasters (to be reproposed).
Subchapter P	Protection of Employees (published in "Federal Register," Vol. 42, No. 239, December 13, 1977).
Subchapter R	Abandoned Mine Land Reclamation (published in "Federal Register," Vol. 43, No. 201, October 25, 1978).
Subchapter S	Mining and Mineral Research Institutes (published in "Federal Register," Vol. 43, No. 167, August 28, 1978).

THE ACT AND THE REGULATIONS

The Act

SMCRA was enacted into law on August 3, 1977. Some of the stated purposes of the Act are:

- to establish a national program to protect society and the environment from the adverse effects of coal mining;
- to prohibit mining where reclamation as required by the Act is not feasible;
- to assure that reclamation occurs as contemporaneously as possible with the mining;
- to strike a balance between protection of the environment and agricultural productivity and the assurance of adequate coal production;
- to assist the States in developing, administering, and enforcing regulatory programs which achieve the purposes of the Act;
- to achieve reclamation of areas previously mined;
- to provide appropriate procedures for public participation in the development of regulations, standards, and programs under SMCRA.

The Act sets forth minimum performance standards for environmental protection and public health and safety which apply to surface coal mining and reclamation operations, surface effects of underground coal mining operations, and surface coal mining in special areas or in special circumstances (such as auger mining, anthracite coal mines, coal mines in Alaska, alluvial valley floor mining, mining on prime farmland, steep slope mining, and surface mining concurrent with underground mining). The Act also sets forth requirements for regulating the environmental effects of coal exploration operations. Persons who propose to conduct surface coal mining and reclamation operations (which include surface effects of underground mining by definition) must apply for and receive permits which incorporate provisions of the Act and regulations and must post performance bonds to cover the costs of reclamation.

Other major provisions of the Act include the establishment of the abandoned mine reclamation fund for use in acquisition and reclamation of previously mined areas, establishment of mineral institutes, special procedures for mining on Indian lands and study of such mining, procedures for mining on land owned by the United States, designation of certain lands as unsuitable for all or certain types of coal mining and procedures for future designation or termination of designation of other lands as unsuitable for all or certain types of surface coal mining operations, procedures for inspection and enforcement, and provisions for judicial review.

The Act provides that any State may retain primary jurisdiction over the regulation of surface coal mining and reclamation operations on non-Federal and non-Indian lands through submission by August 3, 1979, of a program for administration and enforcement of the provisions of the Act. A State's program becomes effective after review and approval by the Secretary. OSM maintains a limited role in a State with an approved program. This role includes (1) such inspections as necessary to evaluate administration of State programs, (2) enforcement against imminent hazards (Section 521(a)(2) of the Act), (3) substitution of a Federal program for a State program when a State is not enforcing its approved program (Section 504 of the Act) or (4) Federal enforcement during a State program under Section 521(b) of the Act.

The Secretary must prepare and implement by June 3, 1980, a Federal program for a State which chooses not to submit a State program, fails to submit an acceptable State program, or fails to implement, enforce, and maintain a State program previously approved. The Secretary and a State with an approved program may enter into a cooperative agreement which provides for joint State-Federal regulation of surface coal mining and reclamation operations on Federal lands within that State.

The Initial Program

Section 201 of the Act established the Office of Surface Mining Reclamation and Enforcement within the Department of the Interior. The Secretary, acting through OSM, is empowered to promulgate such rules and regulations as may be necessary to carry out the purposes and provisions of the Act. Section 501(a) of SMCRA required the Secretary to promulgate regulations specifying initial regulatory procedures for surface coal mining and reclamation operations within 90 days of the date of enactment of the Act. The initial regulations were published in final form on December 13, 1977 (42 F.R. 62639-62716) and will remain in effect (for non-Indian and non-Federal lands) until the Secretary approves a State's regulatory program or implements a Federal program in that State. An EIS on the initial regulations was not prepared because Congress specifically exempted issuance of those regulations from the environmental impact statement requirements of NEPA (SMCRA, Section 702(d)). The initial regulations appear in 30 CFR Chapter VII as Parts 710 through 725.

The Proposed Action

The permanent regulatory program issued under authority of Section 501(b) of SMCRA consists of three major components:

- o regulations concerning environmental and public health and safety performance standards and permit application and bonding requirements for surface coal mining and reclamation operations;
- o regulations covering the procedures for preparation and submission of State programs for the Secretary's approval and for the substantive review criteria used for approval; and
- o regulations governing the development and implementation of a Federal program for a State.

Related Actions not the Subject of this EIS

As in the case of the initial regulations, certain actions of the Secretary relating to the permanent regulatory program are made exempt from the environmental impact statement requirements of NEPA (Section 702(d) of the Act). The exempt actions include approval of individual State programs, promulgation of a Federal program in a State which has chosen not to submit a program or which has failed to submit a satisfactory program, and implementation of the permanent regulatory program for surface coal mining and reclamation operations on Federal lands. As a result of the congressionally mandated exemptions, these actions will not be the subject of this EIS except to the extent that descriptions are needed to give a composite picture of the permanent regulatory program.

Other OSM regulations are already in effect or are in various stages of rulemaking independent of that being followed for the regulations which fall under Section 501(b) of SMCRA. These regulations are therefore not within the scope of this EIS. They are as follows:

- o Subchapter P (Protection of Employees), promulgated in final form on December 13, 1977, 42 F.R. 62712-62713.

- Subchapter R (Abandoned Mine Land Reclamation), promulgated in final form on October 25, 1978, 43 F.R. 49932-49952.

- Subchapter S (Mining and Mineral Research Institutes), promulgated in final form, August 28, 1978, 43 F.R. 38556-38565.

- Indian Coal Mining Regulations, promulgated in final form on December 16, 1977, 42 F.R. 63394-63410.

SECTION III: SUMMARY OF ENVIRONMENTAL IMPACTS

This section summarizes the major physical, biological, cultural, and socioeconomic impacts discussed in Part B which may result from implementation of the preferred alternative (Appendix C). The word "impact," as used herein, means a change--beneficial or adverse--in the resource as it exists before mining.

A. NATIONAL IMPACTS

The permanent regulatory program should have environmental impacts of major importance to the national interest. The impacts will result from requirements for surface and underground coal mining activities to be conducted in accordance with minimum national standards that are more stringent than those under many and, in some cases most, State regulations before the Act was passed. The protection extends to some 8.2 million acres of non-Federal and non-Indian lands which overlie strippable coal. An estimated 431,900 of the acres are planned for mining between 1980 and 1985. A smaller but significant acreage which will be disturbed by underground mining is impacted.

The regulatory program will have a long-term impact in protecting agricultural productivity. Regulations of mining on prime farmlands and alluvial valley floors are intended to protect existing levels of productivity. In other cases, mining will be precluded because restoration is not feasible with today's technology. Regulations related to soils and water require protection of these resources during mining, so that the land's capability to support equal or better levels of productivity can be restored after mining.

Protection of the Nation's water resources is a major emphasis of the regulatory program. Water quality will be protected through regulations requiring assessments of the impacts of mining on the hydrologic balance prior to permitting a mine, and protection of the quantity and quality of water during all phases of mining operations. Addition of sediment to streams from mining will be prevented to the extent possible using the best technology currently available in the design of treatment facilities and by requirements related to diversions, impoundments, vegetation, and spoil and waste disposal. Problems of acid drainage will be minimized by requirements to bury or seal toxic-forming substances, by restriction of gravity discharges from underground mines, and by treatment of effluent.

Requirements for backfilling and grading disturbed areas and disposal of excess spoil and coal waste products will assure that the postmining land configuration is as similar as possible to premining conditions so that productive postmining land use activities can and will be implemented. Variances are allowed where steep slope and mountaintop removal mining practices are used for postmining land use changes that are determined to meet social or economic needs.

The best technology currently available must be applied to minimize disturbances and adverse impacts to fish and wildlife resources and related environmental values, and these resources are to be enhanced where practicable. The habitats of threatened and endangered species will be protected. Consultation with fish and wildlife agencies before permitting mining operations will help assure that operations are conducted in a manner which causes the least stress to fish and wildlife.

Increased protection to public parks, recreation areas, wildlife refuges, forests, and other areas and resources may result from the process for designating lands unsuitable for all or certain types of coal mining operations. Information required in permit applications for mining on private lands will also serve to alert regulatory authorities to the potential adverse impacts that operations could have on those resources as well as contribute to the existing data base on these resources.

B. IMPACTS ON SPECIFIC RESOURCES, INCLUDING UNAVOIDABLE ADVERSE IMPACTS

Water -- The regulatory program requires protection of the hydrologic balance within and adjacent to lands on which exploration and mining occurs. The regulations focus on such measures as the control of sediment movement and chemical contaminants and the maintenance of surface- and groundwater-quantity and quality. To meet effluent limitations for discharge of pollutants, the regulations specify the construction of ponds and discharge structures to trap sediment during development, active mining, and reclamation. The impacts of the regulations on water quality and quantity will vary from region to region, and according to the mining methods employed.

The regulations differ from existing EPA requirements under the Clean Water Act which apply only to point source discharges from the active phase of coal mines and to discharges of certain toxic materials. The permanent regulatory program will also protect ground waters and discharges from non-point sources both before and during mining as well as mine reclamation.

Requirements for data in permit applications should have a national beneficial impact on water resources by limiting coal mining to only operations which can be conducted in compliance with environmental protection standards in the regulations, and where reclamation will be feasible. The regulatory authority should be able to insure that cumulative adverse effects of coal mining on the water resource be minimized by determining the schedule and scope of mining in a general area.

Prior to approval of the permit, the regulatory authority must conduct an assessment of the impact of all anticipated coal mining on the hydrologic balance in the "general area" of the permit area.

Permit approvals and denials in the West must be partially based on an assessment of the impacts of mining on alluvial valley floors based on two criteria: (1) agricultural productivity of alluvial valley floors cannot be adversely affected, and (2) no material damage to the quality and quantity of water systems that supply alluvial valley floors can occur. When mining of alluvial valley floors is allowed, the operator must (1) protect water quality and quantity in the area (2) preclude dewatering of alluvial valley floors where agricultural activities would be adversely affected, and (3) preserve or restore the essential hydrologic functions of alluvial valley floors. Protection of the hydrologic balance in semiarid and arid areas of the West should have a long term beneficial effect on local agricultural productivity, but may also have the adverse effect of precluding the recovery of an unknown amount of coal underlying alluvial valley floors.

Some design standards required to protect water quality or quantity will have local short term adverse effects on such resources as vegetation and wildlife because earth structures and sediment ponds that are larger than those used in current practice may result. Requirements for unmined buffer zones along streams may have an indirect adverse impact of loss of recovery of coal resources.

Performance standards requiring the conduct of coal exploration and mining and reclamation activities in a timely manner should assure minimal local disturbance to water resources. Standards for road construction, use, and maintenance in coal exploration and mining should limit adverse impacts on water resources involving the discharge of sediment.

The performance standards prohibit the release of improperly treated acid and toxic wastes to both surface and ground waters. Sealing or burial of toxic-forming materials to prevent contamination of ground water should reduce their adverse effect on the water resources.

Surface-water diversions and impoundments constructed in the mined area will be required to meet design criteria to minimize impacts on receiving waters. The criteria are to insure minimal adverse impact to surface- and ground-water flows by requiring that ground-water levels, gradients, aquifer transmission, and storage characteristics be monitored and protected to prevent disruption or diminution of flow to adjacent ground-water users.

Performance standards requiring backfilling, grading, revegetation, restoration of the land to suitable postmining land use, and the sealing or other management of entries to underground mines should have long-term beneficial impacts on water resources by reducing the contamination of surface and ground waters by sedimentation and toxic drainage. Performance standards governing spoil and coal processing waste should have a beneficial impact by reducing water pollution and flooding potentials.

Air quality -- The preferred alternative requires that control operators use plans using suggested measures to control fugitive dust as an integral part of site preparation, mining, and reclamation operations. The regulations differ from EPA regulations by requiring that the control technologies to be used be included in the surface mine permit application and monitoring described dust from operations in the West producing 1 million tons of coal annually. Monitoring of other operations may be required at the discretion of the regulatory authority and the regulatory authority may require additional measures if dust control is inadequate. Measures to control fugitive dust may provide improved control of fugitive dust from topsoil, spoil and waste handling and stockpiling, construction of structures and facilities, use of unsurfaced roads and other mining activities. Beneficial effects are expected to be greatest in the West.

Modeling of ambient air quality conditions before mining starts is not required and, thus, the effectiveness of control practices may be less than would be necessary to meet national ambient air standards when a permit is approved. Additional, but temporary, increases in fugitive dust emissions may result from the topsoil handling requirements of the regulations and from requirements for diversions, impoundments and roads which will result in disturbance of larger areas than required under some State laws now.

Topography and geology. -- The regulatory program includes requirements for backfilling and grading to return land to the approximate original contour with limited exceptions. Excess spoil and waste materials must be graded to blend with surrounding topography. Earth structures must be designed for stability and spoil may not be placed on the downslope in steep slope areas. All highwalls must be eliminated.

The major benefits of these requirements will be in the East and include minimization of permanent changes in topography and protection of geologic formations and geochemical balance. Erosion should be reduced and hazards reduced by the requirements for stability. Some benefits will arise from provisions for fills, mountaintop removal and a steep slope variance which permit alternative postmining uses to meet local needs.

Other regulations also reduce changes to topography and geology caused by mining in site specific cases. These requirements provide protection by requiring: (1) maximum coal recovery to minimize repeated disruption of the land, (2) protection of geologic strata and the quality of water in aquifers, (3) minimizing surface distortions and material damage to surface features due to subsidence, (4) the establishment of vegetation to help stabilize soils and recharge aquifers, and (5) restoration of excavations and roads due to coal exploration.

The regulations will result in increasing some short-term changes to topography, including (1) more extensive excavations and spoil piles due the maximization of coal recovery, (2) increased disturbance of acreages due to design standards for impoundments and other earth structures, and (3) storage requirements for topsoil.

Soils and vegetation. -- The regulatory program requires restoration of affected lands to premining productive capacity. Topsoil must be removed, segregated, stored, and redistributed with minimum loss or contamination.

The regulatory authority may require removal of topsoil and subsoil or underlying layers separately and their replacement in sequence where necessary to achieve productivity consistent with premining land use.

Performance standards require mine operators to establish a permanent vegetative cover on disturbed areas of species native to the area or introduced species that will result in biomass production appropriate for the approved postmining land uses. Standards for measuring ground cover and productivity are established.

Special performance standards apply to lands determined to be prime farmlands and having an historical use for intensive agricultural purposes. The mine operator must demonstrate that the productive capacity of reclaimed prime agricultural lands is equal to or greater than that prior to mining before the bond will be released on the mining operation.

The major benefits of these requirements are expected to be the prompt return of mined land to its premining level of productivity. Soil handling requirements will provide seed and root mediums for successful revegetation. More successful revegetation should reduce air and water pollution. The special requirement for prime farmland restoration will help assure that land needed for food and fiber production is not lost as a result of mining.

Adverse effects on soils and vegetation may result from such standards as those for roads which increase areas required to be disturbed, and soil redistribution standards and time requirements necessitating movement of moisture-laden soils causing compaction of subsoil, restriction of root development, and a delay in the establishment of vegetation. Postmining revegetation may be adversely affected by standards for stockpiling of soils in conjunction with underground mining operations, due to a reduction of microbialogical activity in soils stockpiled for long periods of time.

Wildlife. -- The regulatory program requires operators to protect or restore and enhance where possible productive wildlife habitats. Consideration and protection of threatened and endangered species is required. Consultation with fish and wildlife agencies is required before a mining permit is issued to determine the levels and types of protection required. Control practices are required where necessary to reduce hazards to wildlife.

The major benefits of the regulatory program are expected to be the protection and enhancement of habitat for important wildlife, particularly threatened and endangered species. Additional habitat may result as a result of postmining land use planning and the development of transition zones. Additional protection of wildlife during mining should result from the requirements to consider wildlife in planning and to consult with fish and wildlife agencies.

Certain unavoidable adverse impacts of mining, such as effects on reproduction and migration routes, and wildlife and their habitats during actual mining operations may be reduced through the requirement of a wildlife protection plan as a part of the mining permit application. Regulations that protect the quality of water supplies for wildlife as well as the supply of available water should be indirectly beneficial to wildlife. Requirement of buffer zones between mining operations and streams assures the continuing presence of riparian vegetation and riparian habitat of value to wildlife species.

Adverse impacts of the regulations would result from several requirements that may cause more loss of wildlife habitat than mining under existing levels of control. These include the regulations for (1) storage of segregated soil which requires disturbance of land for storage piles and (2) design criteria for diversions, impoundments, sedimentation ponds, and roads. These impacts should be short-term except when the regulatory authority approves the retention of impoundments or roads as part of the postmining land use.

Aquatic life. -- The regulatory program requirements related to water quantity and quality and to wildlife produce impacts on aquatic life. The requirements provide for restoration, protection, enhancement, and maintenance of aquatic life in waters that may be affected by coal mining in the United States. The program should directly protect the quantity and quality of the waters within and downstream of areas mined and habitat characteristics, including streambeds and velocities, on which aquatic species are dependent.

The primary benefits of the regulations will accrue through the protection of aquatic life directly, the additional control and abatement of sedimentation, the additional control of acid- and toxic-forming drainage, and the control and inspection of ancillary mining activities such as coal processing and transportation. In the East, damage to aquatic life through uncontrolled and untreated acid mine drainage and toxic substances emanating from mine sites should be minimized.

The regulations require information on aquatic life at and adjacent to the mining operation in the mine plan before issuance of a mining permit. Additionally, identification of protection measures and consultation with fish and wildlife management agencies should increase protection of the wildlife resource. The regulations also provide protection of threatened and endangered aquatic species in a manner similar to wildlife.

Cultural resources. -- The regulatory program requires consideration of cultural resources in the permit application process and allows designation of lands as unsuitable for coal mining to protect such resources. These provisions extend protection, from the adverse effects of coal exploration and mining operations, to cultural resources which are listed on or eligible for listing on the National Register of Historic Places located on non-Federal lands. Greatest impact will be in East and Midwest regions where most coal is located on non-Federal lands, not currently subject to protection under Section 106 of the National Historic Preservation Act of 1966. An adverse impact of these provisions may be the loss of coal recovery where mining is prohibited.

Land use. -- The regulatory program requires careful selection of areas to be mined and reclamation planning to accomplish restoration of lands disturbed by mining to original conditions or other useful postmining land uses. The regulations requiring land use planning generally favor restoration of the mined land to approximate original contour and to conditions supporting the uses they were capable of supporting before any mining. Restoration to a different land use is permitted, but the strict criteria and procedures set forth in the regulations to insure against failure to attain the postmining land use will inhibit such conversions unless their success is assured. Exceptions to the requirement to restore to approximate original contour may occur in steep-slope and mountaintop removal operations in order to develop land for specific land uses. State and local governments and citizens will have opportunities to participate in decisions on proposed land uses.

The requirements should mitigate many of the adverse land use impacts of postmining practices, and should have a beneficial effect in direct proportion to the level of significance, regional or local, of the lands and resources afforded protection. Beneficial impacts will result from restoration of lands to conditions capable of supporting premining land uses or higher or better uses.

The provisions for public participation will provide the residents and local officials of those communities with an opportunity to participate in the decision-making process for postmining land uses. Some communities may view postmining land use change, if it occurs, as adverse.

Important but highly localized land use benefits may derive from regulations that permit changes from premining land use and allow postmining landforms capable of supporting alternative land uses, such as commercial, residential, recreational, industrial, and other land uses. The procedures for obtaining approval of such changes may discourage beneficial change in some cases.

Where areas are designated unsuitable for mining, there will be an adverse secondary effect due to loss of the coal that cannot be mined.

Esthetics. -- The regulatory program, through a variety of requirements and the designation of lands as unsuitable for mining, should minimize the adverse impact of mining and reclamation operations on the Nation's visual environment by achieving a logical balance between mining activities and protection of the visual resources. The indirect effect of permit requirements and performance standards should help ensure that existing esthetic features are restored after reclamation or possibly preserved by designating land unsuitable for coal mining.

Noise and ground vibrations. -- The regulatory program requires control of airblast and ground vibration that results from blasting. It also restricts blasting near some structures and requires audible warning signals. Benefits of these requirements include reduced annoyance of citizens from noise, directly from blasting or as a result of structural vibration. They also should reduce damage to structures and increase public safety. Short term adverse impacts may be increases in noise levels resulting from equipment used in topsoil and spoil handling and construction of diversions and impoundments. The audible warnings may be adverse to some people and wildlife, but reduce the startling effect of sudden noise on humans.

Transportation. -- The regulatory program establishes requirements for roads within the permit area and procedures to restrict mining within 100 feet of a public road without specific approvals. Requirements to avoid material damage to transportation facilities from subsidence are also included. Standards are stated to control environmental degradation as a result of other on-site transportation facilities.

The long term primary beneficial impacts of the regulations for roads and other transportation facilities would be reduced sedimentation of streams and reduced fugitive dust, increased public safety by approval of roads for postming land use activities, and decreased chances for slides due to more adequate stabilization of cuts and fills and construction of adequate drainage structures. Restriction of mining within 100 feet of public roads and requirements minimizing effects of subsidence on roads will protect off-site transportation facilities from damage.

Some adverse impacts may be identified as a result of construction and reclamation requirements which result in larger areas being disturbed for roads. These may include short term increases in erosion, sedimentation, fugitive dust and loss of wildlife habitat. Long term adverse impacts may result when roads are retained permanently because some wildlife habitat is lost.

Safety. -- The regulatory program requires control of blasting operations to avoid flyrock and damage to property. It also requires casing and sealing of holes, boreholes, adits, slopes, shafts and other underground openings. Surface mining near underground mines is restricted. Regulations related to roads, spoil disposal, slide prevention, subsidence and waste disposal include requirements for consideration of public safety.

The regulation of safety of mine personnel is the responsibility of the Mine Safety and Health Administration, U.S. Department of Labor. Protection of the public and wildlife in general and of structures and facilities is a primary beneficial impact of the permanent regulatory program. This protection would be to persons who may enter the mine permit area during mining operations or after the cessation of operations. The protection would also apply to persons and public and private property on lands outside the permit area that might be affected by blasting operations, use of roads, and landslides or failure of spoil and waste embankments and impoundments.

State programs. -- The permanent regulatory program establishes the requirements for a State program under SMCRA and will cause changes to each existing program. Provisions for flexibility in the content of the program are included. Some programs will be required to expand and change drastically and others will undergo less significant change. The major national benefit expected from these provisions will be adoption of State programs which meet minimum national standards rather than Federal programs to replace State regulation. The regulations will probably have adverse effects on State governments where additional personnel, with a high level of expertise, will have to be hired and trained.

Socioeconomics. -- A qualitative, rather than quantitative discussion of the regulatory program is used for analyzing impacts. The beneficial impacts of the regulations include increased employment in certain fields and general community improvements. One impact of the regulations will be an increased demand for professionals trained in mining engineering, hydrology, geology, agronomy, soil sciences, biology, and archeology. Attitudes, values and life-styles of persons living near coalfields will be beneficially affected by the regulations which significantly mitigate the environmental damage currently created by coal mining. The environmental regulations protect activities such as farming, ranching, grazing, hunting and fishing, while safeguarding residential areas and community facilities such as schools, parks, and churches. The regulatory provisions concerning notification and public participation provide an opportunity for all members of the public to become well-informed concerning decisions which affect how and where coal resources are mined. The regulations restrict long-term degradation in the quality of water available for water supply systems by requiring restoration of aquifer recharge capacity and protecting against subsidence.

Implementing the regulations will increase mine production costs to some degree in all coal producing regions and may result in higher market prices for coal. The ability of mine operators to adjust their production process will determine the magnitude of this increase. Incremental cost increases are likely to be highest in the East due to less stringent levels of existing State regulation and site-specific conditions. There is no evidence that inter-regional shifts in coal production would occur as a result of the regulations. Intra-regional shifts between surface mine sites and from surface to underground techniques may occur. Some mine operations, both big and small, may have to cease production if they are not able to adjust sufficiently to maintain production costs at or below market coal prices. Some assistance is provided for small operators and work is underway to develop additional assistance programs. Should local reductions in coal production occur, there could be a corresponding drop in local employment and population. There is no reliable estimate of the amount of coal resources lost as a result of the regulations. Some resource losses associated with the regulations may be temporary since designations by petitions may be terminated, and because technological advances and market conditions may allow for reclamation where it was not previously possible. In view of the amount of coal available, the adverse effect on the Nation's independent energy supplies is not likely to be significant.

Experimental practices. -- The regulatory program allows departures from the environmental performance standards on an experimental basis if (1) the proposed experimental practice is potentially more, or at least as, environmentally protective; (2) the area to be affected by the experimental practice is not larger than necessary and (3) the number of experiments is not more numerous than necessary. Experimental practices are anticipated to provide technical knowledge and practical experience by which mine operations may be improved or modified for purposes of enhancing compliance with the regulatory program and developing new beneficial mining and reclamation techniques.

Permit procedures. -- The regulatory program requires permit applicants to provide the regulatory authority with environmental, legal and financial data for use in determining the impacts of mine operations. The benefits of the permit procedures stem from data to identify protective measures required to comply with the performance standards and determine if successful reclamation can be expected. The costs of the permitting procedures and delays and interruption resulting from the process may cause short-term interruptions in coal production.

Existing structures. -- The regulatory program requires various types of existing mine structures to meet the performance standards of the permanent program. The benefits of reconstructing or modifying existing structures to meet the performance standards include environmental and public health and safety improvements related to meeting carefully designed and engineered standards. Short-term negative impacts of reconstruction activities at the site include disturbance to vegetation and wildlife, erosion and increased noise and dust levels.

SECTION IV: RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The Act and regulatory program are measures to control and thus mitigate damage to land, air, water, fish, wildlife, and other related resources as a result of mining. In States with currently less stringent or less comprehensive regulatory programs, there may be a short-term decline in mine productivity as a result of the need for mine operators to revise existing mining plans, obtain additional equipment, and otherwise adjust their operations to comply with the requirements of the preferred alternative. This impact is less severe than it would otherwise be because (1) the coal mining industry has been regulated under the Initial Regulatory Program since May 3, 1978; and (2) the industry will have the period from the decision on the proposed action until up to 8 months after a program is implemented in the State in which the operation is located to adjust operations to meet new requirements.

The preferred alternative should have an effect on the long-term productivity of the land. The permanent performance standards are designed to ensure that damage to the environment from coal mining will be kept to a national minimum level and that the recovery of the land for future uses will be expedited. Moreover, the preferred alternative, in conjunction with existing Federal and State regulations, will eliminate or significantly reduce the long-term environmental damage caused by coal mining, such as erosion, siltation, acid drainage, and subsidence. Previously, the various coal mining regions differed in type and degree of adverse effects due to mining controlled by the varying requirements of State regulatory programs. Requirements will be equalized from State to State. This uniformity of requirements will help to eliminate what economic disadvantages may exist between States currently having differing levels of regulation. By requiring, as a condition precedent to approval of mining, a demonstration of the ability to restore the long-term usefulness and productivity of mined lands, the preferred alternative makes a major contribution to ending adverse effects that, in the past, often remained for many years after mining.

The land from which coal is removed will be occupied by mining activities only for the relatively short period necessary for extraction of the coal and reclamation. Thereafter, the preferred alternative will ensure that all land affected by mining is restored to a condition capable of supporting the same use or higher and better uses than it supported prior to mining.

Although fish and wildlife which frequent minesites and associated areas will be disturbed as a result of the mining operations, the preferred alternative limits the extent of the disturbance and provides for the return and reestablishment of fish and wildlife habitats at the site.

The preferred alternative causes some increase in short-term adverse environmental impacts. For the most part, these impacts are associated with increased disturbed areas. Whenever the proposed regulations have the effect of disturbing lands which may not otherwise be disturbed, such land disturbance causes such adverse environmental impacts as fugitive dust, noise, destruction of vegetation and increase in sediment in nearby streams. In addition to short-term adverse impacts resulting from regulations covering the construction and removal of coal haul roads and bringing pre-existing, nonconforming structures into compliance with design standards, examples of regulations that may increase the area disturbed, and, as a result, increase short-term adverse impacts, include regulations regarding sedimentation control structures or ponds, topsoil storage and impoundments. In general, the environmental impacts of certain aspects of these regulations will be adverse and short-term and will be offset by long-term environmental, health and safety benefits which these standards insure. The impacts of these regulations are further decribed in Part B, Section III.

SECTION V: IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The commitments of resources that will be required by the preferred alternative relate largely to personnel and equipment. To a lesser extent, the preferred alternative may produce some changes in land use and topography and will delay and may prevent recovery of some coal resources.

The preferred alternative may also require that mine operators make increased commitments of personnel and other resources for activities necessary to meet the permanent performance standards. Prior to mining, additional employees and expertise will be needed by operators to prepare their permit applications and reclamation plans. Once mining begins, operators will need to make further commitments of manpower, equipment, and materials such as fuel and fertilizers, in order to meet the performance standards and achieve reclamation. Where mine operators seek to bring their operations into compliance with the proposed regulations, they may have to hire more employees and purchase or lease additional equipment in order to ensure that reclamation is performed as contemporaneously as possible. If large numbers of heavy earth-moving equipment are purchased by mine operators to satisfy the requirements of the permanent regulations, that equipment would become unavailable and may produce a temporary shortage for other purposes such as highway and other construction actitivies.

The anticipated increases in personnel, equipment, and materials described in the above paragraph are some of the costs of compliance which are considered as part of studies undertaken for the Regulatory Analysis, which will be published after this EIS. These increased costs are initially internalized by the coal mining industry. The ability of the industry to pass these costs on to the consumers of coal is a function of market conditions and cannot be projected in advance.

The preferred alternative is designed to prevent or minimize environmental damage and restore the land's capability to support the same or higher or better postmining uses. As a result, the preferred alternative would not produce irreversible land-use changes except in areas where the Act allows exemptions or variances from the performance standards, such as mountain-top removal, steep slope mining, and special bituminous coal mines.

Some coal resources may be irretrievably removed from potential production by prohibitions or limitations on mining. Some of the coal may be recoverable later as coal market prices and technology change. Coal underlying lands designated as unsuitable for certain types of mining via the petition process may also be lost; however, such designations could be terminated or the coal could be removed by some other method that would not adversely affect the resource which the designation sought to protect.

SECTION VI: SUMMARY OF ALTERNATIVES TO THE PROPOSED FEDERAL ACTION

A detailed analysis of the alternatives to the preferred alternative is set forth in Part B, Section IV. The alternatives which might be selected are: (1) no action, (2) establish a regulatory program based on general objectives or goals for the States, (3) establish a program based on more stringent regulations, or (4) establish a program based on less stringent regulations. A summary of these alternatives is set forth below.

A. NO-ACTION ALTERNATIVE

The Secretary might choose not to promulgate the permanent program regulations. There are three possible methods for implementing this alternative. The Secretary could not issue proposed regulations; he could delay issuing the regulations until additional analysis or studies are performed; and he could issue only a portion of the required regulations and delay issuing the rest.

Because section 501(b) of the Surface Mining Control and Reclamation Act requires that the Secretary promulgate a permanent regulatory program within certain time limits, a decision to adopt the no-action alternative would have to be made with the understanding that it is not within the Secretary's authority under the Act. The Secretary could propose an amendment to the statute which would authorize a delay in promulgating regulations implementing the program.

The environmental impacts of the no-action alternative can be determined by comparing the preferred alternative with the initial regulatory program under Section 501(a) of the Act, which is in effect at this time. The initial program would represent the status quo which would be maintained if the no-action alternative were selected.

Adverse environmental impacts under the no-action alternative would result primarily from those aspects of surface and underground mining for which there are no performance standards in the initial program and for which State regulations are non-existent or less restrictive than those established in the Act.

B. ESTABLISH GENERAL OBJECTIVES OR GOALS FOR THE STATES

This alternative would involve promulgating regulations that contain general goals or objectives for the States to implement in detail through their own statutes and regulations. This alternative would provide States limited, if any, additional flexibility in developing their own programs to regulate surface coal mining. Under Section 731.13 of the preferred alternative, the "State window," any State may propose and have approved alternative provisions within its program.

Because this alternative could cause some diversion of State efforts from enforcing the initial regulations to preparing detailed regulations and statutory provisions, it could lead to continued environmental damage from those aspects of surface coal mining not regulated during the initial program as well as a possible reduction in the effectiveness of the initial program. The alternative of goals or objectives for the State would probably cost more in total than the preferred alternative, could delay implementation in some States, and would increase the cost of implementing the Act for some States.

C. MORE STRINGENT REGULATIONS

The Secretary could choose to promulgate regulations that are more stringent than the preferred alternative. These regulations would involve performance standards, control measures, or design criteria that are stricter measures and more detailed than the proposed rules. This alternative could eliminate the opportunity for regional variations and restrict both the discretion of the States and the flexibility of mine operators in meeting the requirements of the Act. More stringent regulations would generally fall into four categories: More comprehensive specification of design criteria, narrower range of options within standards and criteria, establishment of specific prohibitions on mining, and requirement of more information for decision-making in the regulatory program.

A regulatory program based on more stringent regulations could afford an increment of increased protection for the environment and public health and safety beyond the protection provided by the preferred alternative. A more stringent program could also result in better assurance of successful reclamation, but it would increase costs to coal operators and could lead to less coal being recovered. Adoption of this alternative, however, would decrease costs to State governments.

D. LESS STRINGENT REGULATIONS

This alternative would involve adoption of regulations that are less stringent than those now proposed by OSM. Such less strict requirements would allow for more State discretion and mine operator flexibility in meeting the requirement of the Act. Less stringent alternatives would generally fall into three categories: Requirement of less environmental resource information for decision-making by the regulatory authority, less comprehensive specification of design criteria for structures and facilities, and wider range of options within standards and criteria.

It is likely that less stringent regulations would not provide as much environmental protection as the preferred alternative. The impact on the coal industry would probably be less severe in terms of its operating costs. Impacts on the States are uncertain. Damage to the environment could result because the regulatory authorities would have less assurance that the performance standards of the Act would be met, and in some instances the same degree of environmental protection would not be achieved. This could result in increased costs of enforcement and to repair environmental damage.

Part B: Supporting Analysis and Data

PART B: SUPPORTING ANALYSIS AND DATA

SECTION I: OTHER RELATED ACTIVITIES

This section of the EIS, Part B, constitutes the supporting analysis and data upon which the Part A summary is based. The reader is referred to Part A, Section I ("Introduction") and Section II ("Description of the Proposed Federal Action") for a discussion of the scope of the proposed action and the methodology used in preparation of this EIS.

A. JURISDICTION OF OTHER FEDERAL AGENCIES

A number of Federal agencies have programs and responsibilities which relate to the preferred alternative. The preferred alternative must be considered in the context of these other agency programs and responsibilities. Certain regulations included in the preferred alternative may not depart substantially from requirements imposed by other Federal agencies, may expand the scope of existing regulations, or may fill gaps from existing Federal agency regulations. The programs and responsibilities of the other Federal agencies are briefly summarized here, and appropriate references are made to relevant statutes, regulations, or other materials.

1. Bureau of Land Managment (BLM)

BLM is responsible for deciding when and where to lease federally owned coal estates and for establishing the terms and conditions for leases (Federal Coal Leasing Act Amendments of 1975, 30 U.S.C. § 181, 90 Stat. 1083; Mineral Leasing Act for Acquired Lands, 30 U.S.C. §§ 351-359, 43 CFR Part 3500). Federal lands under BLM's jurisdiction are managed on the basis of multiple-use concepts. Existing BLM regulations for surface management and protection are found in 43 CFR Subpart 3041. They will undergo revision to reflect decisions which will be made concerning the Department's coal leasing policy and changes resulting from responsibilities under SMCRA delegated to BLM. Terms and conditions to be incorporated into leases and licenses for the protection of the surface and nonmineral resources and for reclamation are formulated by BLM (43 CFR 3041.2-2). For example, BLM has required maximum extraction of coal to minimize future disturbance of the environment through the resumption of mining. The intent is similar to that seen in Section 515(b)(1) of the Act and sections 816.59 and 817.59 of the proposed regulations. Existing BLM subsidence requirements, 43 CFR 3041.2-2(e)(1), are similar to that found in Section 516 of the Act. Regrading to eliminate highwalls, covering of spoil piles and return to approximate contour is required. Contemporaneous reclamation is imposed. These and other requirements in 43 CFR 3041 should be considered when comparing the degree of change which would be produced by the preferred alternative. Significantly, the BLM requirements apply on Federal lands or to Federal coal interests only. The impact of the preferred alternative on these lands is not specifically analyzed by this EIS. To the extent that similar requirements are not imposed under existing State laws, the degree of change will be more significant on non-Federal lands.

BLM is responsible for designation of lands unsuitable for all or certain types of surface coal mining operations under the Federal lands review required by Section 522(b) of SMCRA. BLM will also designate lands unsuitable for noncoal mining under Section 601. After OSM determines that a person qualifies for an exchange under the alluvial valley floor provisions of SMCRA, Section 510(b), BLM will process the exchange.

2. Geological Survey (USGS)

The USGS regulatory responsibilities for coal mining are limited to Federal and Indian lands and concern compliance with production requirements, including diligent development, minimum production levels, royalty payments, and determinations of logical mining units. USGS responsibilities are found in 30 CFR 211.

Until recent amendments transferring responsibility to OSM (43 F.R. 37181, August 22, 1978), USGS had applied performance standards to surface coal mining operations on Federal lands. USGS approval of mining plan applications was based upon demonstrated ability to comply with the standards. The USGS regulations in 30 CFR Part 211 complement BLM's regulations in 43 CFR Subpart 3041.

Although the requirements imposed by USGS in the previous Part 211 regulations may not have been precisely the same as or as extensive as those required by the preferred alternative, USGS did require contemporaneous reclamation, elimination of highwalls and return to approximate original contour, removal and replacement of topsoil, control of acid and toxic drainage through diversion or treatment, disposal of waste in an approved manner, publication of blasting schedules, and establishment of permanent vegetative cover on disturbed lands. Part 211 also prohibited the surfacing of roads with acid or toxic producing materials and the construction of roads in streambeds.

3. Fish and Wildlife Service (FWS)

The Department of the Interior has responsibility for implementing the Endangered Species Act, 16 U.S.C. § 1531. Under Section 7 of that Act, the Secretary of the Interior must utilize his programs to further the purposes of the Endangered Species Act.

As discussed in this EIS, the substance of the process expressly made applicable to Federal agencies in Section 7 of the Endangered Species Act would be made applicable to State and Federal regulatory authorities and actions those agencies authorize on non-Federal lands such as permitting. OSM, as a regulatory authority under the Federal and Federal lands program, would comply with the Section 7 consultation requirements similar to those found at 50 CFR Part 402. The basic change to existing regulatory practice resulting from the preferred alternative would be to apply the substance of the Section 7 requirements to State regulatory authorities activities and to all coal mining on non-Federal and non-Indian lands.

The FWS plays a consultation role under the Fish and Wildlife Coordination Act, 16 USC 1531 et seq. Whenever OSM authorizes an action within the scope of that Act, it will be required to consult with the FWS on ways to minimize potential effects on fish and wildlife resources and to mitigate those effects which will occur. While the regulatory program analyzed in this EIS does not precisely impose this requirement on State regulatory authorities, it does require similar consultation with State fish and wildlife agencies in the process of reviewing permit applications.

The FWS also administers other fish and wildlife related statutes which could apply on occasion to actions taken pursuant to the preferred alternative.

4. Heritage Conservation and Recreation Service (HCRS)

HCRS, in conjunction with the Advisory Council on Historic Preservation, administers Section 106 of the National Historic Preservation Act of 1966 and related historic resource preservation statutes, regulations, and executive orders.

Section 106 calls for Federal agencies to consult with the Council on actions which could affect any properties that are listed on or are eligible for listing on the National Register of Historic Places, which is maintained by HCRS. The Council has instituted procedures for compliance with Section 106 which can be found in 36 CFR 800. Local consultation, similar in nature, will under the permit application regulation and thus extend protection to cultural resources on non-Federal lands.

5. Environmental Protection Agency (EPA)

EPA's responsibilities for regulating air and water pollution relate closely to the preferred alternative. Under Section 501 of SMCRA, the Administrator of EPA must concur in the permanent program regulations insofar as they relate to air and water quality standards promulgated under the Clean Water Act, (33 U.S.C. § 466 et seq.) and the Clean Air Act, (42 U.S.C. 7401 et seq.).

Under the provision of Section 702(a) of SMCRA, the OSM regulatory program may not supersede, amend, modify, or repeal the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act of 1976 (42 U.S.C. 6901-6987), or any regulation issued under those statutes, all of which are administered by EPA.

Under Sections 301, 304, and 401 of the Clean Water Act, coal mining operations must obtain National Pollution Discharge Elimination System (NPDES) permits and comply with EPA's effluent limitation regulations (40 CFR Part 434) for point-source discharges of pollutants to surface waters of the "United States." Those regulations apply only during the active phase of mining operations and do not extend to the reclamation phase of mining. Further, neither the NPDES permit system nor EPA's regulations cover "nonpoint" source discharges to surface water, any discharges to ground water, or discharges to surface waters that do not meet the agency's definition of waters of the "United States." Neither does the Agency regulate the impact of coal mining on water quantity availability, as opposed to water quality, nor does it regulate any aspect of coal mining during the reclamation phase.

EPA could regulate nonpoint source discharges to surface waters and some discharges to groundwater. Section 304(e) of the Clean Water Act allows EPA to control runoff to surface waters if the runoff contains toxic or hazardous pollutants and is ancillary to operation of an industrial establishment which itself causes "point-source" discharges. Section 402(b)(1)(D) of the Clean Water Act authorizes NPDES permits which control the disposal of pollutants into "wells." Sections 1421-1424 of the Safe Drinking Water Act authorize EPA and States approved under Section 1422(a) to issue regulations and permits to control underground injections (subsurface emplacement of fluids by well injections). Section 1424 specifically establishes a mechanism for sole source aquifer determination and protection through withholding of Federal financial assistance. Subtitle D of the Resource Conservation and Recovery Act may upon promulgation of the regulations include controls over environmental contamination from coal waste disposal including protection against both surface water and groundwater pollution (U.S. Environmental Protection Agency, 1978, Appendix B). However, EPA has yet to implement, by regulations, any of the statutory provisions as to coal mining.

Under Sections 506, 510, 515, and 516 of SMCRA, however, all effects of coal mining which could materially damage the hydrologic system are to be regulated through a permit system and regulations which will control: (1) all discharges of pollutants to any ground or surface waters and (2) effects on water availability. Further, under SMCRA, coal mining will be regulated through both the mining and reclamation phases. OSM requirements will impose the effluent limitations already applicable to coal-mining point sources but, in addition, will fill gaps not now occupied by the EPA regulatory program.

The Clean Air Act includes three indices for ambient air: the primary standard, which provides for air quality that is not detrimental to public health; the secondary standard which provides for air quality that is not detrimental to public welfare; and the prevention of significant deterioration standard which guarantees no significant downgrading of air quality.

EPA's current position regarding regulation of air pollution from surface coal mining operations is embodied in regulations adopted on June 19, 1978 (40 CFR § 51.21). The preamble to the regulations ("Introduction to Proposed Rules") explains EPA's regulation position as follows:

> It was also argued that surface mines should receive some relief from strict consideration of ambient particulate concentrations associated with surface mining activities. A number of arguments were presented: that a large majority of the associated particulate matter is nonrespirable; that mining activity occurs in areas with limited population; that the particulate matter arises at ground level and falls out within very short distances; that visibility is not affected because the light scattering which hinders visibility is caused by smaller particles; and that even after the application of BACT (best available control technology), short-term particulate standards for NAAQS (National Ambient Air Quality Standards) and PSD (prevention of significant deterioration) increments might not be met. (Material in parenthesis is added for clarification.)
>
> In view of these comments and other studies, EPA has decided to exclude from any air quality impact assessment of a source or modification any fugitive dust that would emanate from it. "Fugitive dust," as defined in the regulations, consists of particles of native soil which is uncontaminated by pollutants resulting from industrial activity. Fugitive dust

> may come from haul roads or exposed surfaces through the action of man or the wind or both. (43 F.R. 26380, June 19, 1978.)

EPA has decided to exclude fugitive dust from coal mining from air quality impact assessment only on an interim basis. EPA has established certain conditions relative to its temporary exemption of surface mining operations from air quality assessment. The determination of potential fugitive dust emissions should be established and the extent to which the surface mining operations contributes to the make up of the fugitive dust rests with the applicant. Finally, if the source exceeds 250 tons/year the emissions from the source other than fugitive dust emissions would be "subject to the applicable PSD requirements, especially in many instances the BACT requirement" (43 F.R. 26395, June 19, 1978). EPA, however, characterizes its assessment of fugitive dust source as a non-consuming increment of the evaluation.

6. Department of Agriculture (USDA)

The Secretary of Agriculture and agencies within the USDA, particularly the Soil Conservation Service, have programs and responsibilities that relate closely to the preferred alternative. Concern for and protection of prime farmlands from the effects of surface coal-mining operations have not previously been present in Federal regulatory programs. Specific responsibilities of the USDA are as follows:

a. Review and comment on State programs (503(b)(1)).
b. Establish standards for soil surveys for prime farmlands (507(b)(16)).
c. Review and comment on permit applications that include prime farmland, and concur in regulations for the granting of permits on prime farmlands (510(b)(1)).
d. Establish specifications for soil removal, storage, replacement, and reconstruction for surface mining on prime farmland (515(b)(7)).
e. Make the determination required in section 522(e)(2)(B) of SMCRA before surface mining may be permitted in national forests west of the 100th meridian.
f. Establish criteria for identification of prime farmland (701(20)).

7. Department of Energy (DOE)

DOE has specific responsibilities relating to coal leasing on Federal lands. These are specified in Sections 302(b) and 303 of the Department of Energy Organization Act, 42 U.S.C. § 7101 et seq. DOE is authorized to issue regulations relating to competitive bidding for Federal leases, rates of production, diligent development and the acquisition and disposition of royalty interests taken in kind. DOE also has responsibility for establishing national production goals for energy fuels. DOE regulatory responsibilities do not relate directly to the preferred alternative regulations or the environmental impacts which may result.

8. Department of Labor (DOL)

Responsibility for protection of the health and safety of all the Nation's miners is in the Mine Safety and Health Administration (MSHA) within the Department of Labor. Under the Federal Mine Safety and Health Act of 1977 (Public Law 91-173, as amended by Public Law 95-164), MSHA administers a comprehensive program of Federal regulation of the health and safety aspects of the mine workplace (30 CFR Parts 75,77). MSHA responsibility extends to all persons working in any phase of coal mining from construction of the mine to processing and loading of the mined coal. MSHA's responsibility is tied directly to the proposed action through Section 516(a) of SMCRA. Written concurrence of the Secretary of Labor must be obtained for those parts of the permanent program regulations which deal with the effects of mining activities.

Although some mutual areas of responsibility exist between MSHA and OSM, there are differences in emphasis. MSHA's jurisdiction is limited to the health and safety of miners during the operational phases of mining. MSHA is, therefore, concerned that OSM's operational requirements do not cause safety problems for mine workers. SMCRA's concern is with the protection of public health and safety and the surface effects of mining operations and after, as well as during, mining and reclamation.

9. Corps of Engineers

The Chief of Engineers must give written concurrence for regulations establishing standards and criteria for the design, modification, removal, and abandonment of new and existing coal mine waste piles or impoundments (Section 515(f) of SMCRA). These criteria must conform to existing Corps standards intended to ensure that flood control structures are safe and effectively perform their intended functions.

The Corps also has responsibilities under the following statutes which could bear upon actions taken under the permanent regulatory program:

(a) River and Harbor Act of 1899 (30 Stat. 1121, 33 U.S.C. 401 _et seq_.). Approval by the Corps is required before a dam or dike is constructed across navigable waters.

(b) Section 404 of the Federal Water Pollution Control Act, as amended (Clean Water Act, 33 U.S.C. 1344). A permit must be obtained from the Secretary of the Army, acting through

the Chief of Engineers, for the discharge of dredge and fill material into "waters of the United States." These "waters" include wetlands and floodplains which are discussed in Executive Orders 11990 and 11988, respectively.

(c) Public Law 92-367 (86 Stat. 506, U.S.C. 467). The Chief of Engineers is responsible for inspection of dams with certain specifications that constitute danger to human life and property, with exceptions for those dams under the jurisdiction of certain Federal agencies.

10. Executive Orders 11988 and 11990

Presidential Executive order 11988, Floodplain Management, requires that Federal agencies take action to avoid to the extent possible, the long and short term adverse impacts associated with activities which affect floodplains and floodplain development. Executive Order 11988 applies to (1) acquisition, management and disposition of Federal lands and facilities, (2) federally-undertaken, financed or assisted construction and improvements, and (3) Federal activities and programs affecting land use, including, for example, water and land resources planning, regulating and licensing activities.

Presidential Executive Order 11990, Protection of Wetlands, requires that Federal agencies avoid, to the extent possible, the long and short term adverse impacts associated with the destruction or modification of wetlands and avoid direct or indirect support of new construction in wetlands whenever there is a practicable alternative. The scope of application of Executive Order 11990 is the same as that of Executive Order 11988 but the wetlands order does not apply to the issuance by Federal agencies of permits, licenses, or allocations to private parties for activities involving wetlands on non-Federal property.

B. OTHER EXISTING COAL-RELATED FEDERAL ACTIVITIES

1. OSM Regulatory Analysis

A regulatory analysis (RA) of the proposed permanent program regulations is required by Executive Order 12044. The draft RA evaluates the effects of alternatives having major economic consequences and considered by OSM during the development of permanent program regulations. Economic consequences evaluated in the draft RA are those impacts directly accountable in either increased costs or in shifts in resource use occurring to the general economy; to the regional, State, and local governments; or to the general coal mining industry. The final RA will be available for public review after publication of the EIS.

2. OSM Abandoned Mine Reclamation Program

Under Title IV of SMCRA, OSM has issued final regulations independent of this proposed action to implement the abandoned lands program (43 F.R. 49932-49952). That program will use funds appropriated from the Abandoned Mine Reclamation Fund to reclaim coal mine lands left abandoned prior to August 3, 1977. Revenue for the Fund is derived from coal production fees collected under Section 402 of SMCRA. States with approved State programs may apply for and receive approval of a State reclamation plan. Upon approval of that plan, the State becomes entitled to grants equal to 50 percent of the coal production fees generated in that State and may receive additional grants from the portion of the Fund retained by the Secretary. The State must apply such funds to reclamation of abandoned lands until all such lands have been reclaimed.

The balance of the Fund is allocated as follows: 10 percent (but not more than $10,000,000 annually) to small operator assistance for purposes of Section 507(c) of SMCRA, up to 20 percent may be transferred to the Secretary of Agriculture for the Rural Abandoned Mine Program (RAMP), and the remaining 20 percent is available for the Secretary to use on abandoned land reclamation anywhere in the country.

3. USDA (SCS) Rural Abandoned Mine Program (RAMP)

The Rural Abandoned Mine Program (RAMP), authorized by section 406 of SMCRA, helps landowners develop and apply plans for the reclamation, conservation, and development of eligible lands affected by past coal mining. Participation in the program is voluntary. The program is carried out in cooperation with conservation districts for agricultural lands and State foresters for forest lands. RAMP provides cost sharing assistance to landowners for initiating appropriate reclamation and conservation practices on abandoned coal mine lands. This is achieved through long-term contracts of 5 to 10 years funded through congressional appropriations from the Abandoned Mine Reclamation Fund.

The Soil Conservation Service has issued a final environmental impact statement, "Rural Abondoned Mine Program," SCS, USDA, July 3, 1978, discussing the impacts and alternatives to the program.

4. (DOI) Federal Coal Management Program

The purpose of the Federal Coal Management Programmatic EIS is to assess the environmental impacts of a range of alternative strategies for the management of coal resources on Federal lands. The range of strategies include no action to the resumption of leasing Federal coal at various levels. The EIS will serve as a decisionmaking document, allowing for comparisons to the various alternatives. A decision on which strategy to adopt will be forthcoming after the final EIS is completed. The scheduled completion date for the final EIS is April 1979. The Federal lands program under SMCRA will partially govern the conditions under which mining will be allowed on lands affected by the Coal Management Program EIS. SMCRA specifically exempts implementation of the Federal lands program from NEPA's requirements. The Coal Management Program EIS addresses the relationship between the DOI Coal Management Program and the Federal lands program of SMCRA.

5. DOI Regional Coal Environmental Impact Statements

The Bureau of Land Management and the U.S. Geological Survey have under preparation eight regional coal EIS's. The following coal regions are covered: Southwest Wyoming; South Central Wyoming; Eastern Powder River, Wyoming (supplement); Southern Utah; Central Utah; West Central Colorado; Star Lake-Bisti, New Mexico; and Northern Powder River, Montana.

The regional statements include a broad overview analysis of environmental impacts associated with current and potential coal development activities, as well as site-specific analyses of leases, mine plans, and right-of-way permits for which administrative action is probable in the near future. These statements also address related coal development activity not requiring specific Departmental approval, such as mine mouth electrical generating or energy conversion facilities, and the expansion or construction of new communities to accommodate coal-induced population increases.

6. Study of Federal Coal Leasing and 1985 and 1990 Regional Coal Production Forecasts.

The Department of Energy is preparing a study intended to forecast long-term regional coal production expectations. The forecasts will be integrated into the Department's comprehensive review and redirection of the Federal coal leasing program. These scenarios are being used to analyze the full range of production possibilities (low western coal, medium western coal, and high western coal scenarios). Data from this study have been used in the preparation of this EIS.

SECTION II: BACKGROUND AND EFFECTS OF EXPLORATION AND MINING OPERATIONS

A. NATIONAL COAL RESERVES

1. Quality

Coal is a solid, brittle, more or less distinctly stratified, combustible carbonaceous rock, formed by partial to complete decomposition of vegetation. Coal deposits are usually termed beds or seams and range from a fraction of an inch to several hundred feet in thickness. Coals are classified according to the degree of metamorphism, or progressive alteration in the natural series of lignite to anthracite with subbituminous and bituminous coal between the two extremes. Higher rank coals are classified according to fixed carbon content and lower rank coals are classified according to calorific value in British thermal units (Btu). However, quality depends not only on the calorific value and fixed carbon content, but also on the amount of moisture, ash, volatile matter, sulfur and other properties that affect combustion or the environment.

The calorific value of coal is the number of Btu's liberated by the complete combustion of the coal--the higher the Btu value, the greater the heating capabilities of the coal. Moisture in coal is considered as an impurity. It is a dilutent that reduces available energy yield of the coal in proportion to the amount of moisture present. Coal contains widely varying amounts of sand, silt, and clay that were washed into the coal swamps, and this admixed sediment forms the bulk of the ash of burned coal. Fixed carbon is that portion of the coal that is not moisture, volatile matter, or ash.

Of the minerals found in coal, sulfur is the most important single element impeding the utilization of coal as clean fuel. Coal contains sulfur in three forms. Up to 90 percent of the sulfate sulfur and pyritic sulfur in some coal can be removed by mechanical cleaning. However, organic sulfur is a part of, and chemically bonded to, the coal and cannot be removed by physical methods.

As can be seen in table B1, which shows the coal reserve base of the United States by region, mining method, and sulfur content, low sulfur coal is available in all three regions. However, the greatest amount of low sulfur coal is in the West.

The impurities in coals are related to the Btu value. In general, as the heating value increases, the amount of the impurities decreases. The different types of coal vary in heating value. Lignite, which has the lowest Btu value, also has the

Table B1.—Reserve base of coals in the United States on January 1, 1976, by region, mining method, and sulfur content

[Modified from Thomson and York (1975) and Hamilton and others (1975); data in million short tons]

Region	Sulfur content, in weight percent				Total[1]
	≤1.0	1.1-3.0	>3.0	Unknown	
East:					
Underground------	25,619.2	37,573.0	17,971.8	10,472.7	91,634.6
Surface----------	6,113.3	6,442.9	5,009.8	2,454.0	20,020.0
Midwest:					
Underground------	1,721.6	9,713.3	47,281.1	16,583.1	75,302.9
Surface----------	964.6	4,861.2	16,868.1	6,681.0	29,374.9
West:					
Underground------	107,277.9	11,001.6	1,924.4	9,835.5	130,039.0
Surface----------	67,233.1	21,321.4	751.5	2,660.2	91,966.1
Total:[1]					
Underground----	134,617.8	58,287.9	67,177.3	36,891.3	296,976.3
Surface--------	74,311.0	32,625.5	22,629.4	11,795.2	141,361.0

[1] Data may not add to totals shown due to rounding.

greatest amount of impurities. In addition, since a larger volume of lignite is needed to produce the equivalent heating value generated by bituminous coal or anthracite, there would be a larger volume of impurities.

2. Location and Distribution

Coal is abundant in the United States, an estimated 3,968 billion tons of total coal resource (Averitt, 1975) are present in varying amounts in 37 States (U.S. Bureau of Land Management, 1975). Figure 1 shows the general location of these resources. The term "coal resource" designates the estimated quantity of coal in the ground in such form that economic extraction is currently or potentially feasible.

The "coal reserve" is that relatively small part of the resource for which both quality and quantity have been reasonably determined and which is deemed to be minable at a profit under existing market conditions. The coal reserve base is defined by the U.S. Bureau of Mines as bituminous coal or anthracite that is 28 inches or more thick and that is less than 1,000 feet below the surface. Also included are subbituminous coal and lignite 60 or more inches thick and less than 1,000 feet (subbituminous) or 120 feet (lignite) below the surface.

The Bureau of Mines estimates that the coal reserve base in the United States totals approximately 438 billion tons in 31 States. Of the 438 billion tons, 297 billion tons, or 68 percent of the total, are considered to be minable by underground methods, and 141 billion tons, or 32 percent, by surface methods. Table B2 shows the coal reserve base by region and mining method.

As can be seen in table B3, the acreage underlain by the strippable reserve base is estimated to be approximately 10 million acres. This represents 0.43 percent of the total United States land surface area of 2.3 billion acres (Public Land Law Review Commission, 1970). To date approximately 1 million acres or 10 percent of the available acreage has been mined by surface methods.

3. Ownership

Coal in the United States is held by several broad classes of owners, including the Federal and State Governments, mining and manufacturing corporations, railroads, Indian tribes, and private individuals. Information about the ownership of the surface, coal, and other mineral rights for any individual tract of land can be ascertained from the records of appropriate county, State, or Federal agencies.

Most of the coal lands in the eastern and midwestern coal regions are privately owned. In the East, many large tracts of

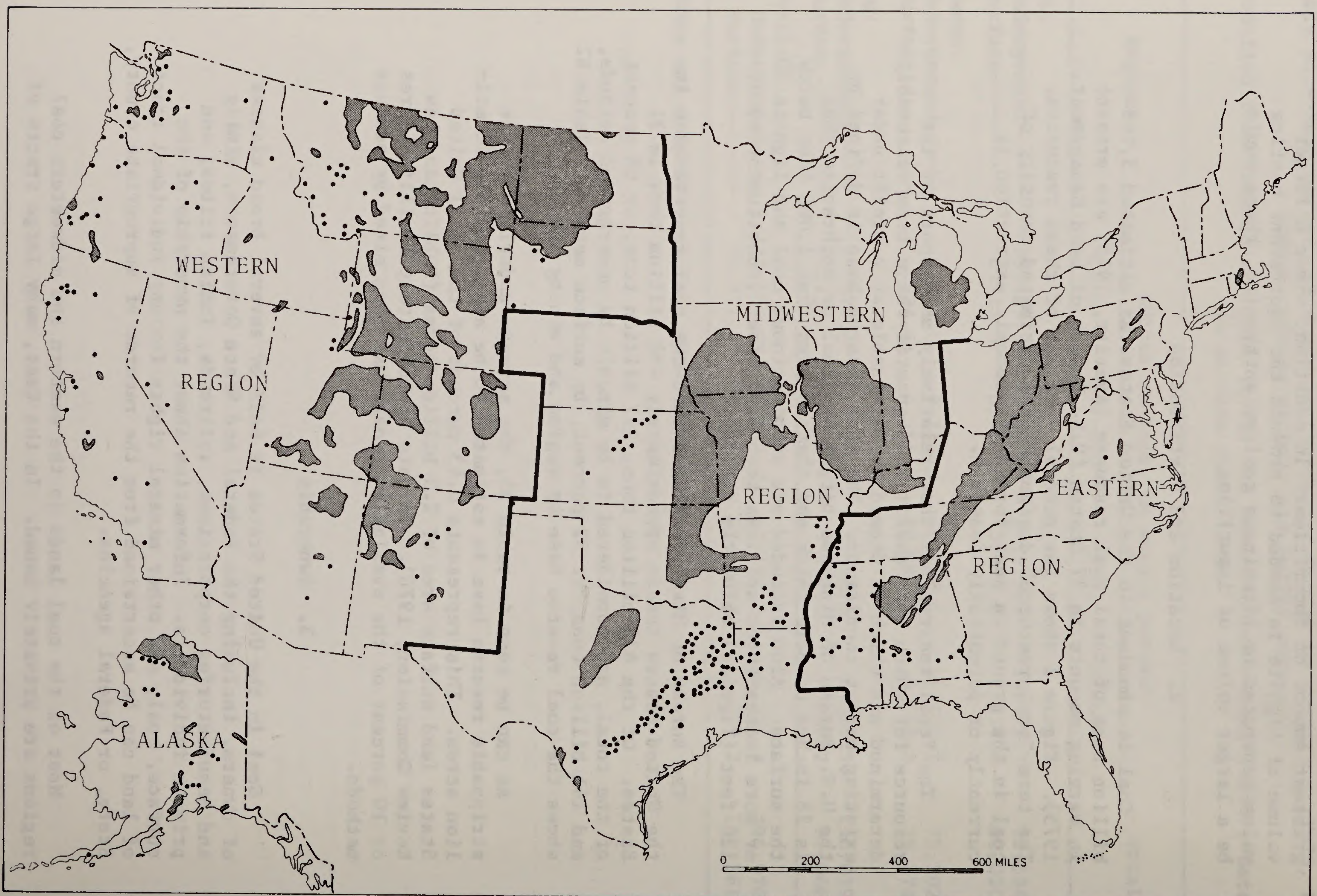

Figure 1.—Coalfields of the United States and the regions discussed in this environmental impact statement. Source from Trumbull (1960).

Table B2.—Reserve base of coals in the United States on January 1, 1976, by region and mining method

[Data from U.S. Bureau of Mines (1977a) given in million short tons]

Region[1]	Potential mining method		
	Underground	Surface	Total[2]
East	91,634.6	20,020.0	111,654.5
Midwest	75,302.9	29,374.9	104,677.8
West	130,039.0	91,966.1	222,005.1
Total[2]	296,976.3	141,361.0	438,337.3

[1] See figure 1 for definition of regions.

[2] Data may not add to totals shown due to rounding.

Table B3.—Estimated acreage overlying strippable coal reserves by State

[Acreage based on computations using average seam thickness and strippable reserve data for each State (from U.S. Bureau of Mines, 1971, 1977a). Data may not add to total because of rounding]

State	Estimated acres overlying strippable reserves	State	Estimated acres overlying strippable reserves
Alabama	365,200	Montana	1,001,000
Alaska	41,500	New Mexico	125,700
Arizona	18,400	North Dakota	362,300
Arkansas	37,500	Ohio	852,800
Colorado	175,500	Oklahoma	118,100
Georgia	100	Pennsylvania	238,100
Illinois	2,417,800	South Dakota	48,700
Indiana	246,500	Tennessee	59,400
Iowa	86,200	Texas	259,700
Kansas	303,000	Utah	10,600
Kentucky	1,294,400	Virginia	141,000
Maryland	25,700	Washington	12,600
Michigan	400	West Virginia	673,100
Missouri	998,900	Wyoming	200,100
		Total	10,114,200

coal are held by mining, manufacturing, or landholding operations. In this area also, the main eastern coal-hauling railroads own some coal lands along their rights-of-way. In areas remote from transportation facilities, some coal acreage is owned by counties, having been acquired during the depression of the 1930's through failure of the owners to keep up real estate tax payments. Federal coal constitutes a very small part of the total in the East and Midwest.

Most of the coal lands in the western coal region are owned by the Federal Government. The Bureau of Land Management maintains records showing disposition and retention of lands and rights by the Federal Government. Fairly large acreages of coal land are owned by States and by the various Indian tribes in the western and central United States. Table B3a shows the surface acreage overlying strippable Federal and Indian coal reserves by State.

4. Development

Coal production has been increasing since the first coal mining in America began in Virginia in 1787. The production trend from 1900 through 1977 by mining method for bituminous and lignite coal is shown in figure 2. Production of anthracite began in the early 1800's and steadily increased until 1917 when it reached a peak of over 100 million tons. Production has steadily decreased to a present level of approximately 6 million tons.

Realizing that there are many variables which affect the rate of coal consumption over the long term (Hubbard 1969; and Yannacone, 1974), an estimated 90 percent of the reserves in the United States will be consumed in approximately 350 years. The future development and consumption of coal will depend on numerous factors, including public policy regarding energy conservation, air quality standards, production and transportation economics, and the normal demand "shifters" such as income, population, and the price of substitutes. The ability to supply coal, on the other hand, will be dependent on the reserve base, the economics of coal extraction and transportation, the leasing systems and schedules now being developed by the Department of the Interior for the publicly owned portion of the resource, the institutional constraints imposed by such factors as ownership patterns, and legal and regulatory constraints.

In June 1977, the Department of Energy (DOE) was requested to develop long-term coal production expectations consistent with the President's energy program. To analyze the full range of production possibilities for 1985 and 1990, DOE developed three production scenarios. A low western coal scenario resulted in forecasts of low national consumption and shifted regional production to the East. Alternatively, a high western coal scenario resulted in high national coal consumption and provided

Table B3a—Estimated acreage overlying strippable Federal and Indian coal reserves in the West[1], by State

(Compiled from data in U.S. Bureau of Land Management, 1978, Table 2-5 for non-Indian lands and Table 2-24 for Indian lands)

	Estimated Acreages Overlying Strippable		
State	Federal reserves	Indian reserves	Total
Colorado	107,060	---	107,060
Montana	640,648	302,663	943,311
New Mexico	103,096	205,444	308,540
North Dakota	115,946	107,143	223,089
Utah	9,036	---	9,036
Wyoming	146,041	---	146,041
Other[2]	---	108,000 - 151,000	108,000 - 151,000
Total	1,121,827	723,250 - 766,250	1,845,077 - 1,888,077

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1. Includes all known Federal and Indian coal reserves in the western region. Data on eastern Federally-owned coal reserves is not readily available; however, as stated in U.S. Bureau of Land Management (1978, p. 2-1), the Northern and Central Appalachian, Eastern Interior and Texas Coal Regions have essentially no Federally owned coal.

2. Includes acreages in Colorado, New Mexico, and Montana.

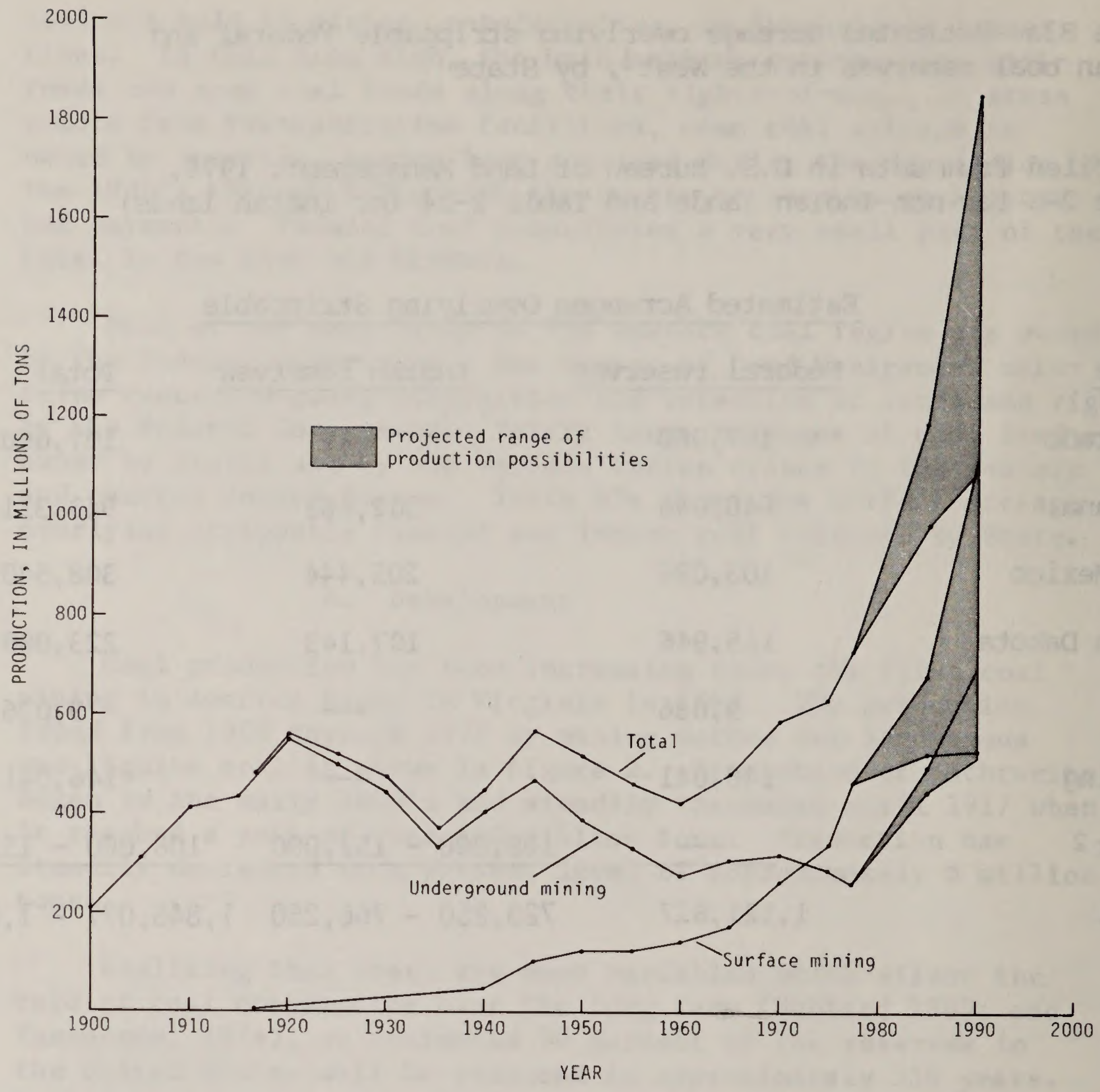


Figure 2.—Production of bituminous and lignitic coal by method of mining, from 1900 to 1990. The 1977 to 1990 production is estimated from U.S. Bureau of Land Management (1975) and U.S. Department of Energy (1978a).

for a major regional production shift to the West. Finally, a medium western coal scenario provided an intermediate forecast (U.S. Department of Energy, 1978a).

Table B4 summarizes national production projected for 1985 and 1990 under each of the three scenarios. It can be seen that national production forecasted for 1985 ranges from 990 million tons per year to about 1,188 million tons per year, and from 1,144 million tons per year to about 1,856 million tons per year in 1990.

Table B4.—Regional forecasts of 1985 and 1990 coal production by mining method

[Data from the U.S. Department of Energy (1978a), in million short tons]

Region	1985 estimates			1990 estimates		
	Low	Medium	High	Low	Medium	High
East:						
Underground-------	297.7	308.3	319.1	299.9	345.4	377.8
Surface-----------	129.1	132.3	135.2	96.4	99.9	101.0
Midwest:						
Underground-------	123.6	145.7	154.9	225.6	274.1	287.6
Surface-----------	125.7	127.0	127.0	110.5	128.3	153.2
West:						
Underground-------	27.9	28.6	28.6	28.4	37.0	36.1
Surface-----------	286.2	375.3	423.0	353.8	636.5	900.5
Total:[1]						
Underground-----	449.2	482.7	502.7	554.0	656.5	701.8
Surface---------	541.0	634.6	685.5	560.4	864.6	1,154.6
Total-------------	990.2	1,117.3	1,188.2	1,114.4	1,521.0	1,856.4

[1] Total may not add due to independent rounding.

B. CHARACTERISTICS OF THE COAL MINING INDUSTRY

1. Status of Coal Mining in National Economy

The value of the coal mined in the national economy represents about 0.7 percent of the gross national product (GNP). Coal is of vital importance to the United States as an energy source and as a necessity for several industries.

The major use of coal in the U.S. economy is in steam-electric powerplants. Approximately 44 percent of the electricity generated in the United States comes from these coal-powered plants. This accounts for approximately 76 percent of the coal consumed in the United States. Coal used in the steel industry accounts for approximately 15 percent of the U.S. coal production. Many industrial processes using oil and gas, such as cement, lime, gypsum, and taconite pellet heaters, can be directly converted to coal. Other industrial uses of coal as a substitute for oil and gas could be accomplished by equipment modifications and chemical or physical alteration of the coal.

2. Active Mining Companies

a. Bituminous Coal and Lignite

The total U.S. production of bituminous coal and lignite in 1976 was 679 million tons. Table B5 lists the number of mines by region, size, and method of mining in 1976. The production of the largest 100 mines, those producing more than 1.2 million tons per year, is compiled in table B6. In 1976 the largest 100 mines accounted for approximately 35.1 percent of the total U.S. production. Table B6 shows that production in the West is increasing at a significant rate, while in the East is has increased only slightly and in the Midwest it has decreased.

b. Anthracite

All reported production of anthracite in the United States originates in 10 counties located in northeast Pennsylvania. In 1977, this production totaled an estimated 6.2 million short tons, the same as that for 1976. Fifteen companies accounted for 71 percent for total production. Of the total output, 51 percent was obtained from strip mines, 42 percent from culm and silt banks, 6 percent from underground mines, and 1 percent from dredging operations.

Thirty-eight companies are presently conducting anthracite mining operations. There are approximately 80 underground mines, 92 strip mines, 112 culm bank recovery operations and 6 river dredges. The amount of anthracite recovered by stripping operations has increased from 43 percent in 1974 to the present 51 percent. During the same time, the amount of anthracite recovered from underground mines has decreased from 10 to 6

Table B5.—Number of mines and production of bituminous coal and lignite by region, size, and method of mining in 1976

[Data, from U.S. Department of Energy, in A columns are number of mines and in B columns are production in thousands of tons]

	Total		500,000		250,000 to 500,000		100,000 to 250,000		50,000 to 100,000		10,000 to 50,000		10,000	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B
East:														
Underground----	2,314	226,559	112	96,647	117	41,513	258	41,912	316	22,657	841	20,869	670	2,961
Surface--------	3,362	179,605	34	29,295	83	26,916	323	49,216	483	34,048	1,444	34,982	995	5,143
Total--------	5,676	406,164	146	125,942	200	68,429	581	91,128	799	56,705	2,285	55,851	1,665	8,104
Midwest:														
Underground----	56	55,705	39	52,386	6	2,454	2	362	4	311	5	193	-----	-----
Surface--------	316	106,247	56	87,603	18	6,885	35	5,732	40	2,958	103	2,743	64	326
Total--------	372	161,952	95	139,989	24	9,339	37	6,094	44	3,269	108	2,936	64	326
West:														
Underground----	52	12,615	9	6,373	9	3,005	17	2,862	2	107	8	235	7	31
Surface--------	61	97,953	33	95,484	4	1,391	3	546	4	345	6	123	11	66
Total--------	113	110,568	42	101,857	13	4,396	20	3,408	6	452	14	358	18	97
Total:														
Underground--	2,422	294,880	160	155,408	132	46,972	277	45,136	322	23,073	854	21,299	677	2,992
Surface------	3,739	383,805	123	212,382	105	35,192	361	55,495	527	37,352	1,553	37,849	1,070	5,535

Table B6.—Compilation of production of bituminous coal and lignite for the top 100 coal producers in 1976, 1975, and 1971

[Production data (Nielsen, 1977) given in short tons]

	1976				1975				1971			
		Percentage—				Percentage—				Percentage—		
	Production of top 100	Of total	From surface	From under-ground	Production of top 100	Of total	From surface	From under-ground	Production of top 100	Of total	From surface	From under-ground
East-----	57,177,271	8.4	1.9	6.5	51,222,058	7.9	1.9	6.0	57,790,000	10.5	3.4	7.1
Midwest--	93,876,265	13.8	9.1	4.7	95,960,317	14.8	9.4	5.4	75,270,000	13.6	9.7	3.9
West-----	87,873,646	12.9	12.4	0.5	68,211,458	10.5	10.2	0.3	24,710,000	4.5	4.5	0
Total--	238,887,182	35.1	23.4	11.7	215,393,833	33.2	21.5	11.7	157,770,000	28.6	17.6	11.0

Note.—Total U.S. production, in short tons, was as follows:

1976--------------678,685,000
1975--------------648,438,000
1971--------------552,192,000

percent. The production from culm banks and dredging operations has also decreased; the total production since 1974 is 0.4 million tons.

3. Development and Financing of Mining Operations

Project financing is a common method of financing the development of a revenue producing project where related debt is secured by the project assets, often with a definite commitment to complete and to operate the mine upon completion of development. Repayment of the related debt is made out of stated portions of the expected cash flow generated from the project assets. Repayment either may be geared to production (with a stipulated floor) or be made equal to scheduled debt amortization.

Regional banks may participate in the loans to larger producers. In addition, they are a principal source of loans to both medium-size publicly held producers and smaller producers. Because of the risks present in lending to this latter group, regional banks look not merely to the presence of a long-term contract, with either a utility or industrial user, but also to the support provided to the project by the corporate credit of the borrower.

Institutional investment tends to be available only for large coal companies and (or) major projects, since most insurance companies invest on a first-mortgage basis in $5 million increments. Investment bankers generally arrange for financial institutions (principally insurance companies and pension funds) to purchase long-term debt, the proceeds of which are used to open mines, collateralized by long-term sales contracts with utilities. These often are further supported by a future takeout, repurchase agreement, or a guarantee by the utilities purchasing the coal.

Because institutional lenders have fiduciary responsibilities, normally they will not accept any risk whatsoever other than credit and portfolio risks. The term for which they will lend has declined from 30 years to 20 years, and on a sinking-fund basis the average payback is 12 years.

Historically, the primary means of financing the development of a new eastern mine has been for an established producer to utilize existing cash flow from other properties to cover development costs. This has been in keeping with the conservative nature of the eastern coal industry and the low price of coal in the marketplace.

The least expensive mine to open and operate is the small surface mine. The equipment required may be financed or leased to the producer by an equipment manufacturer, with an additional working capital loan from his local bank. Occasionally, these working capital loans are guaranteed by Government agencies such as the Small Business Administration. The risk inherent in this kind of financing is increased by the fact that a substantial portion of production is often sold into the spot market, in which fluctuations in market price can be quite volatile vis-a-vis long term contract sales. A marketing alternative available to the small producer is to sell through coal brokers on negotiated terms; the brokers, in turn, will aggregate a volume of coal large enough to be sold pursuant to long-term contracts to eventual consumers.

The most capital-intensive mining method is deep mining, where capital requirements range from $30 to $50 per annual ton of capacity or up to $50 million for a million-ton mine. The financing lead for the large deep mines is usually taken by one of the limited number of major commercial banks which are staffed to understand the complex technical mining and credit factors involved. Development of such a mine used to take 2-1/2 to 3 years, but this leadtime has increased recently by an additional year or two, partly as a result of MSHA (Mine Safety and Health Administration) requirements.

The risks perceived by bankers are different for surface and deep mining. For a surface mine, the principal danger noted is possible environmental reclamation cost. For underground mining, the level of capital intensity required and the risks associated with noncompletion or with business interruption due to a disaster are materially greater. As a result of this perception of risks, most commercial banks will not usually lend to a single underground mine without other mines as a backup source of payment. Banks may also be reluctant to finance an operation unless the mining company can obtain a long-term contract.

Many of the small operations have a difficult time getting a long-term contract because of their small production and limited reserve base. Approximately 5 percent of the total U.S. coal production is uncommited and sold in the spot market, the majority of it in the East. A number of the companies operate more than one mine and can produce enough coal to obtain a long-term contract, but the small, privately owned and operated mines must sell in the spot market, and consequently they have encountered difficulties in financing.

Development of new mines occurs partly in response to increased demand. But the cost of replacing depleted mines with new capacity is high. Mine replacement costs have tripled since 1950, in part due to inflation, and continue to rise. As a result, coal companies have been forced to a greater extent to rely on outside sources of funds or to forego investment in new mines.

Capital requirements for the coal industry during the next decade have been forecast by several financial analysts. FEA's

"National Energy Outlook" estimated these requirements at $42 billion, of which $17.7 billion (24 percent) will be required for development of western coal resources. While some analysts have forecast that up to 60-70 percent of the industry's capital requirements will be generated internally, it has been indicated that such projections of internal-funds generation are too high in the western coal context. Such estimates are based on a cash flow of $1 or more per ton of coal produced. However, western coal is both low priced and not presently produced in large volume relative to expected growth to be financed. Therefore, little of the financing needed for western development is expected to come from internal investment, and indeed some of the financing may come from international investment.

The rapid expansion in western coal mine development has occurred largely as the result of the entry of large mining and oil companies and a few public utilities into the coal business, coupled with the gradual development of properties owned by the railroads. For the most part, these companies have been well capitalized and able to finance development of their coal properties by using either project financing techniques or their general corporate credit. Through 1985, development of Western coal properties is perceived as likely to be largely the result of the continuing expansion of these companies and other present owners of western coal reserves, rather than from the extensive entry of companies not already involved in western coal mine development.

The financing of expansion is not expected to be dependent exclusively on the general corporate credit of these companies. Western companies typically have fewer mines than their eastern counterparts and have dedicated the cash flow from these mines to the repayment of related debt. Other debt financing techniques have been important for western coal mine development, where mining operations often have lacked an established cash flow from already-existing operations to support expanded borrowing for new-mine development.

C. FEDERAL AND STATE REGULATION

1. Pre-Act Federal and State Regulation

Prior to enactment of the Surface Mining Control and Reclamation Act (SMCRA) on August 3, 1977, mining of Federal and Indian coal and reclamation of the affected land surface was primarily regulated by the Federal Government under several laws and regulations. (See Part B, Section I. A.)

The Federal Government did not directly regulate mining of State and privately owned (fee) coal and the reclamation of the affected land surface prior to SMCRA, except via the Federal Water Pollution Control Act of 1972 and the Clean Air Act of 1970 and the Mine Safety and Health Act. Of the 37 States with coal production, 31 States had some form of regulation of surface coal mining for State-owned coal, and 29 of these States also applied their program to fee coal as of December 1975 (Imhoff and others, 1976). The degree of regulation of the coal mining industry required by individual States before enactment of SMCRA on August 3, 1977, is variable, ranging from few regulations to a level approaching the minimum standards of the Federal program evaluated in this statement. Table B7 (Imhoff and others, 1976) illustrates the degree of regulation in each State. (See last page of table B7 for explanation of entries.)

The analysis of State mining reclamation requirements and future trends in Imhoff and others (1976) presents a general description of State requirements prior to SMCRA, and an excerpted discussion (pages 7-9) of the origin and trends of State legislation and the effects of State and local controls follows:

"The reclamation of surface-mined lands in the United States began in the Midwest in the 1920's as a voluntary experimental program initiated by coal companies attempting to establish, at minimum costs, quick-growth forests on ungraded spoil heaps * * *. Successful reforestation was demonstrated in West Virginia and was followed in Indiana by the successful conversion of strip-mined land to pasture and to row crops at Meadowlark farms, near Terre Haute. The demonstration of reclamation capability and of the potential for recovery of costs (if not profit) provided substantial impetus for the first State mined-land reclamation laws, enacted in West Virginia in 1939, Illinois in 1943, Indiana in 1941, Pennsylvania in 1945, Ohio in 1947, and Kentucky in 1954.

"Early State reclamation laws addressed only coal mining. Rules were promulgated requiring revegetation and, in some cases, reduction of spoil pile slopes as a means of converting strip-mined land to a land-cover type that would be of economic value and would reduce erosion.

Table B7.—*Matrix of information on State s*

1	2	3	4	5	6	7	8	9	10	11
Stage of program development				State law				Reclamation—Main		
State	Act(s)	Rules and regulations	Technical guidelines	Title of Act(s)	Administering agency(ies)	Mineral or commodity covered	Rules vary by mining method	Control water flow and quality	Conserve and replace topsoil	Backfill grad
ALABAMA	X	X	--------	Alabama Surface Mining Act of 1969 and Alabama Surface Mining Reclamation Act of 1975.	Department of Industrial Relations and Surface Mining Reclamation Commission.	All minerals *except* limestone, marble, and dolomite (coal covered by 1975 Act).	-------	X	X	Strike-off of spoil ridges t width ≥ ft and c coal sea with spo depth ≥
ALASKA	NOTE: On State lands, reclamation requirements are established by the State of Alaska—on a case-by-case basis—as part of the a condition of leasing).									
ARIZONA	NOTE: The State of Arizona applies standard reclamation requirements to State Lands as a condition of mineral leases. Arizon trols (e.g., zoning) and activity permits (e. g., minerals proceeding) to encourage reclamation.									
ARKANSAS	X	X	X	The Arkansas Open Cut Land Reclamation Act of 1971.	Department of Pollution Control and Ecology.	All minerals	-------	X	Standards vary according to original natural conditions.	All grades be ≤33% blade and grade to proximat original face cond tions.
CALIFORNIA	X	--------	--------	Surface Mining and Reclamation Act of 1975.	Department of Conservation (Policy); local governments (Permits and Plans).	All minerals	-------	X	-----------	---------
COLORADO	X	--------	--------	Colorado Open Mining Land Reclamation Act of 1973.	Department of Natural Resources.	Coal, sand, gravel, quarry aggregate, and construction limestone.	-------	X	-----------	Strike-off to spoil ridg to width ≥15 ft. Achieve l or undula skyline.
CONNECTICUT							NOTE: Local governmental land-use controls and p			
DELAWARE							NOTE: Local governmental land-use controls and p			
FLORIDA	X	X	--------	Chapter 211. II Florida Statutes.	Department of Natural Resources.	All minerals	-------	X (Lakes shall support fish or recreation).	X	All grades w be ≤25%. Blend pea ridges, and leys. Deve uninterrup drainage.
GEORGIA	X	X	X	Georgia Surface Mining Act of 1968, as amended.	Department of Natural Resources.	All minerals	-------	X	X	Blend peaks, ridges, and valleys int a rolling t graphy sul able for pl growth.
HAWAII	X	--------	--------	Chap. 181, Subtitle 3, Hawaii Statutes.	Department of Land and Natural Resources.	All minerals, *except* sand, rock, gravel, and construction materials..	-------	X	If necessary for end-use objective.	Strike-off pe and ridges of s and fill depressions.
IDAHO	X	--------	--------	The Idaho Surface Mining Act.	Department of Lands.	All minerals	-------	X	Replace overburden to extent reasonably available.	Strike-off rid to width o ≥10 ft and peaks to w of ≥15 ft.
ILLINOIS	X	X	X	Surface-Mined Land Conservation and Reclamation Act.	Department of Mines and Minerals.	All minerals	-------	X	*Row crops,* 18 in.; *Other uses,* replace as practicable.	Varies by planned us i.e.: origin grade for r crops; ≤30 forest and wildlife; ≤50% hay and pastur

mined-area reclamation programs, December 1975

12	13	14	15	16	17	18	19	20	21	22	23	24
required and standards set				Requirements for land-use planning				Special Provisions				
Reduce highwall or pitwall	Bury or neutralize toxic wastes	Revegetate for beneficial use	Other rules or remarks	Resources information required	Alternative uses will be considered	End use will be declared	Role of local public planning	Minerals protected from nonmining development	Exclusion of areas from consideration for mining	Long-range or regional mine planning	Substitute lands allowed	Financial or economic analyses required
Eliminate coal mine highwall, except at final cut.	With 2 ft of earth or permanent water body.	Standards for forests, grasses, and legumes. soil additives may be required.	Construct two access roads per each mile of coal mine highwall. Depth of lakes ≤6 ft.	Hydrology. and land use.	×	×	1975 Act is "... to preempt local ... regulation of coal surface mining ..."	---------	---------	---------	---------	---------
of leases to mine operators. Most of the mineral deposits of Alaska lie on State or Federal lands (where reclamation requirements are												
contains Federal lands where reclamation requirements are a condition of mineral leases. Some local units of government use land-use con-												
×	With 3 ft of earth or permanent water body.	×	Construct fire lanes or access in areas of reforestation.	Soils ------	Any "productive use."	×	---------	---------	---------	---------	×	---------
---------	---------	---------	---------	Climate, geology, land use, minerals, population, topography, and water resources.	Operator must declare "potential uses."	×	Act on permits and reclamation plans and establish mining policy in general plans.	State may designate areas reserved for mining.	---------	---------	---------	---------
---------	---------	× (Exceptions for unsuitable areas.)	---------	Geology, land use, minerals, topography, and water resources.	---------	×	Review for conformity with local land-use controls.	---------	---------	---------	×	---------
activities may be applicable to mining and reclamation.												
activities may be applicable to mining and reclamation.												
---------	---------	Plant coverage >80%; bare areas ≤¼ acre.	Established lakes must be at least 3 acres in size and 6 ft in depth.	Land use, minerals, soils, topography (USGS), and water resources.	Consider "landowner's desires."	×	Must certify excavations intended for property improvement.	---------	---------	---------	×	---------
× (Except in solid rock.)	With 2 ft of soil supporting vegetation.	Attain high quality permanent cover.	---------	Land use minerals, population, topography, and water resousces.	---------	×	---------	---------	---------	Rules provide for long-range planning updated by annual permits.	×	---------
---------	---------	Quick cover grass crop, followed by reforestation, or conversion to farming.	Carrying capacity of pasture lands will be ≥1 cow per 3 acres.	Soils, topography, and water resources.	Land uses comparable, at least, to premining conditions.	---------	---------	---------	---------	---------	---------	---------
---------	---------	Revegetate to compare to premining conditions.	---------	Minerals and water resources.	---------	---------	---------	---------	---------	---------	---------	---------
To grade of ≤50%.	With 4 ft of water or suitable material.	Replant row crops if soils suitable. Detailed standards for other uses.	Separate permits required for refuse disposal (landfill).	Geology, land use, minerals, soils, topography (USGS), vegetation, water resources, and wildlife.	Agency will "encourage" consideration of multiple land use.	×	County board may recommend land use, and may request hearings.	---------	---------	Rules "encourage" long-range reclamation planning.	×	Land values, tax base, state & regional economy, employment & effect of plan.

Table B7.—*Matrix of information on State surface mine*

1	2	3	4	5	6	7	8	9	10	11
Stage of program development				State law					Reclamation—Main actio	
State	Act(s)	Rules and regulations	Technical guidelines	Title of Act(s)	Administering agency(ies)	Mineral or commodity covered	Rules vary by mining method	Control water flow and quality	Conserve and replace topsoil	Backfill and grade
INDIANA	×	×	×	Chap. 344, Acts of 1967, Indiana Statutes.	Department of Natural Resources.	Coal, clay, and shale.	-------	×	----------	Grades: row crops ≦8%, pasture and hay ≦25%, forest and range ≦33% (slope lengt limited).
IOWA	×	×	×	An Act Relating to Surface Mining, as amended.	Department of Soil Conservation.	All minerals	--------	×	In coal mine reclamation, strata more suitable than top soil may be used.	Grade spoil to ≦25%, except where original land was steeper, then, blend with adjacent land.
KANSAS	×	×	×	Mined-Land Conservation and Reclamation Act.	State Corporation Commission.	Coal	--------	×	As necessary to provide plant growth material.	Rolling topography traversable for planned use. Grade ≦25% (slope lengths limited).
KENTUCKY	×	×	×	Chapter 350, Kentucky Revised Statutes.	Department for Natural Resources and Environmental Protection.	All minerals	For *contour mining,* limits are placed on cut benches and slope.	Detailed standards.	----------	Approximate original contour. Grade bench tables to ≦10%.
LOUISIANA							**NOTE: Local governmental land-use controls and perm**			
MAINE	×	×	--------	(1) Mining and Rehabilitation of Land Act, and (2) Site Location of Development Act.	Department of Environmental Protection.	All minerals (sand and gravel are covered only by Site Act).	--------	×	×	×
MARYLAND	×	×	×	Maryland Strip Mining Law.	Energy and Coastal zone Administration.	Coal	Backfilling rules vary by *area, terracing,* or *block-cut* methods of mining.	× (pH range 6.8 to 8.5.)	×	*Area:* approximate contour. *Terracing:* grade the bench to ≦9% and outer slope grade to ≦70%.
MASSACHUSETTS	--------						**NOTE: Local governmental land-use controls and permi**			
MICHIGAN	×	--------	--------	Mine Reclamation Act of 1970, as amended.	Department of Natural Resources.	All minerals except clay, gravel, marl, peat, or sand.	--------	----------	----------	----------
MINNESOTA	×	--------	--------	Mineland Reclamation Act of 1971, as amended.	Department of Natural Resources.	Metallic minerals.	--------	----------	----------	----------
MISSISSIPPI							**NOTE: Local governmental land-use controls and permit**			
MISSOURI	×	--------	--------	(1) Reclamation of Mining Lands *and* (2) The Land Reclamation Act.	Department of Natural Resources.	Act (1) coal and barite; Act (2) clay, limestone, sand, and gravel.	--------	----------	----------	Act (1) traversable for farming; Act (2) traversable for intended uses and strike-off top of spoil ridges to width of ≧20 ft (forest and pasture).

area reclamation programs, December 1975—Continued

12	13	14	15	16	17	18	19	20	21	22	23	24
required and standards set				Requirements for land-use planning				Special Provisions				
Reduce highwall or pitwall	Bury or neutralize toxic wastes	Revegetate for beneficial use	Other rules or remarks	Resources information required	Alternative uses will be considered	End use will be declared	Role of local public planning	Minerals protected from nonmining development	Exclusion of areas from consideration for mining	Long-range or regional mine planning	Substitute lands allowed	Financial or economic analyses required
To grade of ≤33% or create lake in pit.	With 2 ft of soil, overburden, or water.	×	Other standards pertain to lakes, soil texture, and waste disposal.	Geology, land use, minerals, soils, topography, and water resources.	×	×	----------	----------	----------	----------	Prohibited.	----------
To grade of ≤33%.	With 2 ft of spoil.	× (Detailed guidelines available.)	----------	Mineral, soils, and water resources.	----------	----------	----------	----------	----------	----------	----------	----------
To grade of ≤25% unless supported, as by a lake.	With 2 ft of spoil or permanent water body.	×	Other standards pertain to removal of boulders and formation of lakes.	Geology, soils, topobraphy (USGS), and water resources.	----------	×	----------	----------	----------	Rules allow 5-yr plans for "contiguous" mined areas.	×	----------
Auger mining face to ≤45°; other mining, backfill and cover coal to 4 ft.	With 4 ft of overburden.	× (Detailed guidelines available, e.g., time of planting.)	Other, detailed standards on: access roads, lakes, and sediment control.	Soils, topography (USGS), and water resources.	----------	----------	State permits must comply with local zoning laws.	----------	----------	Rules allow the development of "area plans" for mined areas.	----------	----------
activities may be applicable to mining and reclamation.												
----------	----------	×	----------	Minerals, soils, topography (USGS), vegetation, and water resources.	----------	----------	----------	----------	----------	----------	----------	----------
Eliminate highwall by backfill and cut.	With 2 ft of overburden.	Quick cover grass crop, followed by vegetation for end uses.	Specific survival standards for the vegetation established through reclamation.	Minerals, soils, topography (USGS), and water resources.	×	× (Attention to landowner's desires.)	Agency takes cognizance of county planning, zoning, and grading permits.	----------	Land sloping more than 20° (any 200 ft cross-section) is excluded.	"Encouraged." Annual permit renewals provide update.	Prohibited.	----------
activities may be applicable to mining and reclamation.												
----------	----------	----------	----------	Environmental planning information may be required.	----------	----------	----------	----------	----------	----------	----------	Act mandates studies of economic effects of regulations.
----------	----------	----------	----------	----------	----------	----------	"Rules . . . shall conform with any State and local land-use planning program."	----------	Agency identifies areas not reclaimable under present technology.	----------	----------	Act mandates consideration of economic effects of regulations.
activities may be applicable to mining and reclamation.												
Act (1), slope of face will be ≤25%.	With 4 ft of earth supportive of vegetation.	Appropriate to type of end use declared.	Exceptions allowed in grading on: Act (1), subdivisions and wildlife; Act (2), flood plains.	----------	×	×	----------	----------	----------	----------	×	----------

Table B7.—*Matrix of information on State surface min*

1	2	3	4	5	6	7	8	9	10	11
Stage of program development				State law					Reclamation—Main acti	
State	Act(s)	Rules and regulations	Technical guidelines	Title of Act(s)	Administering agency(ies)	Mineral or commodity covered	Rules vary by mining method	Control water flow and quality	Conserve and replace topsoil	Backfill an grade
MONTANA	X	X	X (Partial.)	(1) Montana Strip & Underground Mine Reclamation Act, *and* (2) Open Cut Mining Act, *and* (3) Montana Hard-Rock Mining Reclamation Act.	Department of State Lands.	Act (1) Coal and uranium; Act (2) bentonite, clay, phosphate rock, scoria, and sand and gravel; Act (3) other minerals.	--------	Act (1) specific criteria, e.g.—pH range of 6.0 to 9.0.	X	Act (1) grade to ≤20%.
NEBRASKA							**NOTE: Local governmental land-use controls and per**			
NEVADA							**NOTE: Local governmental land-use controls and per**			
NEW HAMPSHIRE							**NOTE: Local governmental land-use controls and per**			
NEW JERSEY							**NOTE: Local governmental land-use controls and per**			
NEW MEXICO	X	X	--------	New Mexico Coal Surfacemining Act.	Bureau of Mines and Mineral Resources.	Coal	--------	X	-----------	Topography will be "gently undulating" or consistent with proposed end use.
NEW YORK	X	--------	--------	New York State Mined Land Reclamation Law.	Department of Environmental Conservation.	All minerals and mined topsoil.	--------	X	X	X
NORTH CAROLINA	X	--------	--------	The Mining Act of 1971.	Department of Natural and Economic Resources.	All minerals	--------	X	-----------	Minimizing earth slides and consistent with future land use.
NORTH DAKOTA	X	X	--------	North Dakota Century Code; Reclamation of Strip-Mined Land.	Public Service Commission.	Coal	--------	X	Replace all available plant growth material, up to 5 ft thickness.	Approximate original contour, or serve approved end use.
OHIO	X	X	--------	(1) Strip Mine Law, and (2) Surface Mine Law.	Department of Natural Resources.	Act (1) Coal, Act (2) All other minerals.	--------	X	X (or other plant-growth materials.)	Approximate original contour, or serve approved end use.
OKLAHOMA	X	--------	--------	Mining Lands Reclamation Act.	Department of Mines.	All minerals	--------	-----------	-----------	Topography will be traversable for approved end use. Slope of box cut overburden will be ≤25°.

rea reclamation programs, December 1975—Continued

12	13	14	15	16	17	18	19	20	21	22	23	24
quired and standards set				Requirements for land-use planning				Special Provisions				
Reduce highwall or pitwall	Bury or neutralize toxic wastes	Revegetate for beneficial use	Other rules or remarks	Resources information required	Alternative uses will be considered	End use will be declared	Role of local public planning	Minerals protected from nonmining development	Exclusion of areas from consideration for mining	Long-range or regional mine planning	Substitute lands allowed	Financial or economic analyses required
lope of face will be ≤20%.	Act (1), backfill with 8 ft of overburden.	Suitable, permanent, diverse and primarily native species.	Effluent standards conform with criteria of State Dept. of Environmental Sciences.	Environmental areas, geology, soils, minerals, topography (USGS), vegetation, water resources (use plan & monitoring system), and wildlife.	-----------	×	-----------	---------	--------	"Intended mining and reclamation plans" are developed to apply to life of operation.	Prohibited.	Reclamation costs requested of applicant.
activities may be applicable to mining and reclamation.												
activities may be applicable to mining and reclamation.												
activities may be applicable to mining and reclamation.												
activities may be applicable to mining and reclamation.												
-----------	×	To serve selected end use.	-----------	Climate, land use, soils, topography, vegetation, water resources, and wildlife.	×	×	Consultation required with soil and water conservation districts.	----------	--------	-----------	--------	-----------
To be safe, stable and compatible with surrounding terrain.	×	×	Mining from State-owned submarine lands is covered by another act.	Land use, minerals, topography (USGS), and water resources.	-----------	×	Local mining laws and land-use controls, stricter than the Act prevail (but locals must enforce).	----------	--------	-----------	--------	-----------
-----------	×	× (with appropriate local or State agency approval.)	-----------	Land use, minerals, vegetation, and wildlife.	-----------	×	-----------	----------	--------	-----------	--------	-----------
Slope of face will be ≤35%.	-----------	×	Remedy any impairment to domestic or livestock water supply.	Geology, land-use preference, minerals, soils, topography, vegetation, and water resources.	×	×	-----------	----------	Act conveys authority to delete certain lands from surface mining.	"Extended Mining Plans" cover 10-yr period.	--------	Agency may request estimate of costs of reclamation.
×	×	×	-----------	Act (1) soils (test borings) and topography. Act (2) soils (test borings or prior operation).	×	×	-----------	----------	Act (1) conveys authority to delete certain lands from surface mining.	Act (2) plan covers 10-yr period.	--------	Act (1) applicant provides estimated cost of reclamation.
Suitable to serve end-use objective.	With 3 ft of overburden.	× (Exemptions: soils, with poor texture, toxicity, and nutrient deficiency).	-----------	-----------	-----------	×	-----------	----------	--------	-----------	--------	-----------

Table B7.—*Matrix of information on State surface mi*

1	2	3	4	5	6	7	8	9	10	11
Stage of program development				State law					Reclamation—Main ac	
State	Act(s)	Rules and regulations	Technical guidelines	Title of Act(s)	Administering agency(ies)	Mineral or commodity covered	Rules vary by mining method	Control water flow and quality	Conserve and replace topsoil	Backfill a grade
OREGON	×	×	--------	Oregon Mined Land Reclamation Act, as amended.	Department of Geology and Mineral Industries.	All minerals	--------	×	-----------	As appropri for planne subsequent beneficial use.
PENNSYLVANIA	×	×	--------	Surface Mining Conservation and Reclamation Act, as amended.	Department of Environmental Resources.	All minerals	--------	×	× (12 in. of soil, conditions permitting, or all available topsoil.	Approximate original co tour; terrace; or, serve approved en use.
RHODE ISLAND							NOTE: Local governmental land-use controls and pe			
SOUTH CAROLINA	×	×	--------	South Carolina Mining Act.	Land Resources Conservation Commission.	All minerals	--------	×	-----------	Minimizing slides and consistent with futur land use.
SOUTH DAKOTA	×	×	--------	Surface Mining Land Reclamation Act, as amended.	Department of Agriculture.	All minerals	--------	×	×	"Achieve con tour most beneficial t the propos land use."
TENNESSEE	×	×	×	The Tennessee Surface Mining Act.	Department of Conservation.	All minerals *except* dimension stone, limestone, and marble.	*Contour mining* rules apply on slopes >15°; *area mining* on slopes <15°; quarries are a special case.	Detailed standards are in effect.	×	*Contour*: Fill benches pr hibited on slopes >28° *Area*: Approximat original lan surface.
TEXAS	×	--------	--------	Texas Surface Mining and Reclamation Act.	Railroad Commission of Texas.	Coal, lignite, and uranium.	--------	×	Use stratum best for plant growth.	Approximate original contour.
UTAH	×	×	--------	Mined Land Reclamation Act of 1975.	Department of Natural Resources.	All minerals (including oil-shale and bituminous sands).	--------	×	×	× (where "practical").
VERMONT	×	--------	--------	Vermont's Land Use and Development Law.	District Environmental Commissions and the Environmental Board.	All minerals	--------	----------	-----------	-----------

ea reclamation programs, December 1975—Continued

12	13	14	15	16	17	18	19	20	21	22	23	24
quired and standards set				Requirements for land-use planning				Special Provisions				
Reduce highwall or pitwall	Bury or neutralize toxic wastes	Revegetate for beneficial use	Other rules or remarks	Resources information required	Alternative uses will be considered	End use will be declared	Role of local public planning	Minerals protected from nonmining development	Exclusion of areas from consideration for mining	Long-range or regional mine planning	Substitute lands allowed	Financial or economic analyses required
s appropriate for planned subsequent beneficial use.	----------	×	Visual screening if economically practicable; streambank restoration.	----------	----------	×	Department may approve local governmental permitting or reviewing in lieu of State.	----------	----------	----------	----------	----------
liminate highwall.	Varies with existing conditions.	×	Clean Streams Law also directly applicable.	Fisheries, geology, land use, minerals, and water resources.	×	×	----------	----------	----------	----------	----------	Applicant provides detailed estimate of reclamation.
ctivities may be applicable to mining and reclamation.												
----------	×	× (with appropriate local or state agency approval.)	Visual screening may be required.	Land use, topography (USGS), vegetation, and wildlife.	----------	×	Local soil and water conservation districts review and comment.	----------	----------	----------	×	----------
lope will be ≤14°.	With 8 ft of topsoil or suitable overburden.	To create self-regenerative growth without irrigation.	Noxious weeds must be controlled.	Land use, soil, minerals, topography, wildlife, vegetation, and water resources.	----------	×	Incompatibility with local land plans can be basis for rejection of mining request by Agency.	----------	----------	----------	----------	Applicant provides detailed estimate of reclamation costs.
Eliminate highwall with complete backfill, sloped to bench ≤35°.	With 4 ft of compacted material or permanent water body.	Where approved, permanent growth serving purpose at least as useful as pre-mining.	Standards differ by mineral: coal, phosphate, sand and gravel, clays, shale, and barite.	Land use, minerals, soils, topography (USGS), and water resources.	----------	×	----------	----------	----------	----------	----------	----------
×	×	Establish diverse self-regenerative cover suitable for approved end use.	Principles stated on lakes, water rights, and ground water; 4-yr responsibility for vegetation.	Hydrologic effects, land capability, land use, minerals, soils, topography, vegetation, water resources, and wildlife.	Determine capacity of land for alternative uses.	×	Notified and comment is recorded.	----------	Agency can declare "areas unsuitable for mining" (6 criteria).	Applicant must anticipate effects of reclamation over life of mine.	----------	Agency conducts economic studies relating to item (22).
----------	×	× (Priority to non-noxious native plants.)	Program is implemented through orders that recognize individual site and mine conditions.	Land use, soils, vegetation, and water resources.	Explore capabilities of land to support a variety of uses.	×	Notified and comments taken under advisement.	----------	----------	----------	----------	----------
----------	----------	----------	Application for permit is viewed for conformity with State plan or planning principles.	Land capability and land use.	×	×	Action must accord with local plans.	× (Land development permits.)	----------	----------	----------	----------

Table B7.—*Matrix of information on State surface min*

1	2	3	4	5	6	7	8	9	10	11
Stage of program development				State law				Reclamation—Main acti		
State	Act(s)	Rules and regulations	Technical guidelines	Title of Act(s)	Administering agency(ies)	Mineral or commodity covered	Rules vary by mining method	Control water flow and quality	Conserve and replace topsoil	Backfill an grade
VIRGINIA	×	×	×	(1) 45.1–198, *and* (2) Title 45.1–180, chap. 16.	Department of Conservation and Economic Devolpment.	Act (1) coal. Act (2) All other minerals.	Quarries are a special case—especially in backfilling.	×	--------	". . . retain spoil on bench insofar as feasible . . ."
WASHINGTON	×	×	--------	Surface-Mined Land Reclamation Act.	Department of Natural Resources.	All minerals	Quarries are a special case.	×	--------	Conform to surrounding land area.
WEST VIRGINIA	×	×	×	Article 6, Chap. 20, Code of West Virginia, as amended.	Department of Natural Resources.	All minerals	Grading and backfilling rules vary by *area mining* or *contour mining.*	Standards set forth in *Drainage Handbook for Surface Mining.*	×	Fill benches denied on grades >65% ; contour mined areas will b suitable for farm machinery.
WISCONSIN	×	--------	--------	Metallic Mining Reclamation Act.	Department of Natural Resources.	Metallic minerals.	--------	×	×	×
WYOMING	×	×	--------	Wyoming Environmental Quality Act of 1973.	Department of Environmental Quality.	All minerals	Rules vary by *soft rock mining* or *hard rock mining.*	×	Use most suitable plant growth materials.	Approximate original co tour; terrace; or serve approved end use.

Explanation of entries in table

Entry	*Meaning*
--------	Indicates the absence of a specific requirement or program element. No specific mention of this topic is made in the State Act or in the rules or regulations, but the topic may be addressed in administrative orders or in current professional practice extant in that State.
×	Affirms the existence of a requirement or program element; means that the wording in the column heading applies to the given State.
An entry phrase or sentence not in parentheses	Affirms that the subject of the column heading is covered in the State. Also supplies detailed information useful in showing the individual character of the State program.
(A note set in parentheses)	Used to modify an × entry or note entry by giving an example, showing an exception (if so stated), or refining the main information presented.

area reclamation programs, December 1975—Continued

12	13	14	15	16	17	18	19	20	21	22	23	24
required and standards set				Requirements for land-use planning				Special Provisions				
Reduce highwall or pitwall	Bury or neutralize toxic wastes	Revegetate for beneficial use	Other rules or remarks	Resources information required	Alternative uses will be considered	End use will be declared	Role of local public planning	Minerals protected from nonmining development	Exclusion of areas from consideration for mining	Long-range or regional mine planning	Substitute lands allowed	Financial or economic analyses required
". . . reduce . . . to the maximum extent practicable."	With 4 ft of material suitable for plant growth.	×	Standards for access roads across highwall; special preparation of soils in erosion-prone areas.	Environmental impact study (implied), land use, minerals, topography (USGS), and water resources.	×	×	Local soil and water conservation districts advise.	----------	----------	----------	--------	----------
Grade of wall in unconsolidated, ≦66%; wall slope in rock, ≦45°.	With 2 ft of clean fill.	×	Requirements of other agencies relate to water rights, flood plains, and fish and wildlife.	Land use, minerals, topography, and water resources.	----------	×	Applicant must show legality of action with regard to local zoning.	----------	----------	----------	--------	----------
×	With 4 ft of material suitable for plant growth.	Detailed standards.	Other detailed requirements exist for back fill and for stream crossings.	Land use, minerals, soils, topography, and water resources.	×	×	----------	----------	----------	----------	--------	----------
----------	×	×	Screening of site required.	Geology, land use, soils (sultability), topography, and water resources.	----------	--------	Mining, reclamation, and comprehensive plan shall conform to local zoning.	Act mandates a State program discouraging the preclusion of mining.	--------	Agency may require comprehensive long-term plan.	--------	Applicant may be required to show costs data.
Stabilize; slope; minimize effect on landscape.	×	×	Protect soil stockpile from winds. Delay mining for archeological or paleontological surveys.	Geology, land use, soils, topography (USGS), vegetation, water resources (use & rights), and wildlife.	----------	Must be ≧ highest previous use of site (as declared by Agency).	County involvement in administration of act.	--------	--------	----------	--------	Socioeconomic analyses may be needed by Agency to set use.

Explanation of entries in table

Explanation of Symbols

> Greater than
≧ Greater than or equal to
≦ Less than or equal to

Conversion Equation For English to Metric Units

1 foot (ft)=0.30 metres (m)
1 acre=0.40 hectares (ha)

Special Note on Heading of Column 21

The provision cited is a possible pre-application, blanket exclusion of surface mining from areas declared "off limits" on the basis of explicit criteria.

"In the 1950's and 1960's, revisions in the early laws and the new laws of additional States normally added requirements for soil conservation, roads, bank stabilization, prompt revegetation and for water quality control at the site (an objective addressed also by intensified activities in Federal and State pollution control laws).

"Near the close of the 1960's, States began expanding coverage of the law to all minerals, and the new State laws tended to address land-use planning relationships to reclamation. Detailed standards were developed relating to all the major activities that occur at a minesite--before, during, and after mineral removal--and to the impact of the mining and reclamation activity on the surrounding environment.

"The decade of the 1970's has been characterized by new programs that treat mining as an interim land use. This emerging concept * * * is being expressed increasingly in State legislation."

"Besides the governmental programs specifically termed 'mined-area reclamation,' a great number of other local and State controls of various kinds pertain to the integrated set of activities that occur over time at the 'average' surface minesite. The number and type of controls vary by locale and by State. * * * the mine operator may have to obtain literally dozens of Governmental permits (excluding Federal) if the mining, reclamation, and land-use activities that ensue at the site are to be lawful."

Some of the conclusions (page 28) of the authors were:

"As of December 1975, mined-area reclamation programs which affect surface mining, associated reclamation, and subsequent land use of mined sites have been enacted by 38 States.

"Most of the State mined-area programs have arisen since 1970, a fact which reflects: (1) A response to the 'environmental movement,' (2) increased competition for land use, and (3) increased surface mining activity as the 'energy crisis' unfolded.

"Difference in the details of State mined-area programs are common, as individual States face their own peculiar natural, economic, political, and social conditions.

"Commonalities arise among many State reclamation programs, as similar conditions are recognized and as the accumulating mass of State experience is understood and adapted by new States coming on line.

"Mined-area reclamation programs can be very sophisticated in terms of the regulatory approaches and the particular requirements placed on the mine operator applicant. As a general rule, in any given State, reclamation requirements are becoming progressively more comprehensive in coverage and more detailed in terms of definition through standards and guidelines."

Other analyses of State programs are in Library of Congress (1977), Yanik and others (1976) and U.S. Council on Environmental Quality and U.S. Environmental Protection Agency (1977).

2. OSM Initial Regulations

SMCRA required that the Secretary of the Interior publish initial environmental protection regulations that were applicable to all coal mining operations regulated by the States until a State has an approved regulatory program or a Federal regulatory program is implemented in each State. The initial program, contained in Parts 710 through 725 of OSM's regulations, includes a portion of the standards considered by Congress to be most important in eliminating the most severe environmental impacts.

D. DESCRIPTION OF EXISTING COAL MINING OPERATIONS AND ASSOCIATED ENVIRONMENTAL IMPACTS

The mining techniques and equipment utilized throughout different regions of the Nation are largely dependent upon the geological and the associated environmental conditions. A detailed description of the regional environments can be found in the 1975 final EIS "Proposed Federal Coal Leasing Program" (U.S. Bureau of Land Management, 1975, pages 2-3 to 2-78) and in the 1976 final environmental statement "Surface Management of Federal Coal Resources and Coal Mining Operating Regulations" (U.S. Department of the Interior, 1976b, pages II-1 to II-167). The following descriptions of mining operations are presented as a general introduction to the operational complexity of the industry (U.S. Bureau of Mines, 1975a); Mathematica, Inc., 1976; U.S. Bureau of Mines, 1975d; U.S. Geological Survey, 1975; and Cummins and Givens, 1973). These publications are available to the public at the five regional OSM offices and in some government depository libraries.

The following descriptions of general mining and reclamation techniques were practices prior to the enactment of SMCRA (Surface Mining Control and Reclamation Act) and, together with a general description of environmental impacts which result from mining generally taken from U.S. Bureau of Land Management (1975, pages 3-4 through 3-28), one may glean an idea of the effect coal mining exerts on other natural resources and the health and safety of the general public.

1. Exploration and Leasing

The presence of economic deposits and their nature, shape, and grade are determined by exploration. Various methods are utilized in executing the exploratory program. The most frequently used method involves outline and reconnaissance drilling. Interpretation of drill cores provides quantitative and qualitative information such as: physical and chemical character of coals and associated overburden, thickness and condition of topsoil, geologic structure, faulting and fracturing, and ground-water hydrology. This information is gathered and interpreted to develop adequate mining and reclamation plans.

Exploration may be divided into two or more phases; however, the two predominant phases are: (1) preliminary or prospecting and (2) final exploration. The two often overlap. In general, locating the presence of a coal deposit is considered as preliminary exploration. Establishing whether or not it is an economic deposit by its nature, shape (size), and grade is considered as final exploration.

The initial step in any exploration program is a literature search. These searches are usually conducted to secure available oil, gas, and water drill-hole records, geophysical survey data, surface and mineral ownership, and access routes in the general area. In parts of the eastern region, regional exploration efforts emphasize contour prospecting with dozers, utilization of old deep-mine maps, and a limited amount of core drilling.

In the midwestern region, exploration is similar except that old oil, natural gas, and water-well drill-hole records are a primary source of information.

In the western region, drilling is usually initiated on broader centers. Many companies find little if any need for detailed exploration work, except in areas with steeply dipping beds or complex geologic settings.

Final exploration programs in all regions involve an attempt to further define the nature of the coal involved, such as the tonnage of coal, the minability, and the consistency of quality. Detailed exploration requires closer spaced electronic sensory and (or) drill-hole patterns and plotting of large-scale detailed maps.

Exploration is generally done with truck-mounted rotary drills, and the samples taken with such rigs can be either cuttings or core or both. Hole depth will be as much as 300 feet when exploring for deposits minable by surface methods and more than 1,500 feet when underground mining methods are contemplated. Additional equipment used by an exploration crew may include personnel carriers, a hole-logging equipment truck, water truck, and a dozer or grader to assist in obtaining access to the exploration area and drill site. The latter is used when terrain or vegetation will not otherwise allow travel.

Exploration causes environmental impacts in areas that are not regularly subject to the continued presence of man. Off-road vehicles are generally used for reconnaissance of the exploration area, and their use intrudes into wildlife habitat and also creates incipient zones of erosion along the ruts created by the off-road vehicles. Exploratory roads or trails which are constructed to drill sites are of a temporary nature. In the process, vegetation is removed, wildlife disturbed, and the newly exposed surface of the roads and drill sites exposed to erosion by wind and water. Drill-holes may penetrate several ground-water aquifers; the resulting leakage between aquifers or to the surface may cause degradation of water resources. In some situations where coal deposits are near the surface or where bulk coal samples are needed, pits are excavated in the exploration process. This procedure results in considerable disturbance of the surface area. There are instances in the past where areas affected by coal exploration were not reclaimed, especially if exploration efforts were unsuccessful, causing a long-term adverse environmental impact.

Prior to final exploration, the rights to mine the coal must be obtained from the property owner. Agreements involving the transfer of lands where the mineral estate and the surface estate are under private ownership (commonly called fee lands) can be made in many different ways, and a variety of terms can be included in any particular agreement.

One such agreement is the option--an agreement by an owner to give the mine operator the exclusive right to accept the terms of the owner's offer for a set period of time. The option can be to purchase or lease and is coupled with an agreement giving the operator the right to enter and to explore the land during the option period. The mining company may be committed by an option to specific reclamation procedures or postmining land uses as a term of the agreement.

Perhaps the most common type of mineral transaction is the mineral lease. The terms of such a lease are extremely flexible, and they can be tailored to the interests of both the lessor and the lessee. In a lease agreement, the lessor generally receives a bonus payment or royalty payment based on the tonnage mined. A lease may also commit the mining company to reclamation procedures similar to those incorporated into an option.

Outright purchases of land are not as frequent because they require an advance outlay of capital by the mining company without sufficient knowledge of the land's value.

Much of the coal reserve in the western region is under the control of the Federal Government and therefore is subject to the Mineral Leasing Act of 1920 (30 U.S.C. 130). Under this Act, coal deposits were made subject to disposition through lease, and the Secretary of the Interior was given authority to make rules and regulations necessary to carry out the mineral leasing program, including mining reclamation procedures. The Federal coal leasing procedures presently under consideration are described in detail in the new draft environmental impact statement "Federal Coal Management Program," prepared by the U.S. Department of the Interior released for public review and comment in December 1978.

2. Development

Once exploration and mineral rights acquisition have been accomplished, a specific surface or underground mining technique is selected. The most important factors in considering which method to use are the depth of the overburden and the thickness of the coal seam and the availability of capital to purchase equipment. All factors influencing mine development are analyzed in conjunction with each other to determine the economic size of a new mine, mine design and layout criteria, and equipment types and sizes.

Mine production is dependent on the amount of available reserves and is designed to permit a mine life that will allow reasonable depreciation of investment. Market predictions and transportation modes can also influence the projected mine production.

Large operators generally select and evaluate several pit or mine layouts. Actual selection of equipment is the final stage of mine planning. Maximizing production while minimizing operation costs is the key consideration for proper equipment selection.

After planning, the development of the mine begins and may include construction of a road to the mine property, utility lines, a mine plant, and access to the coal deposit. Depending upon the amount of coal produced annually and where the coal is to be used, construction of a railroad spur may be required. For coal that contains excessive impurities, a washing plant could be constructed as part of the mine plant if the mine is large, but impure coal is generally hauled to a central washing plant if the mine is small.

A mine plant may include a tipple, coal storage, office, maintenance sheds, change house with showers and toilets, power substation, laboratory, parking lot, storage building for equipment, supplies and materials, and a waste disposal area. Mine ventilation fans are part of the surface plant at underground operations.

Construction of mine and support facilities causes environmental impacts related to site preparation, such as grading and drainage diversion, and to the actual construction of the facilities. Large mines may temporarily bring many construction workers to the area. Disruption of wildlife patterns and increased soil erosion often accompany facilities construction. Construction of mine and support facilities begins a period of minerals-extraction land use which may last from a few years to decades and differs significantly from the premining land use. In many instances in the past, surface facilities were seldom removed and the land affected by such facilities remained after mining had ceased.

3. Surface Mining

Surface coal-mining techniques are generally dependent on geographic location, geologic conditions, and topography. The three generalized regions of the United States shown on figure 1 in section II A where geologic and topographic conditions warrant similar mining techniques are the eastern, midwestern, and western regions. For a description of the environment in these regions see chapter 2 of the 1975 final EIS "Proposed Federal Coal Leasing Program" (U.S. Bureau of Land Management, 1975).

a. Eastern Region

In the eastern region, surface mining methods include a number of forms of contour stripping, such as conventional contour stripping, modified block cut, box-cut contouring, and lateral movement (haulback) mining. Area surface mining practices also occur where geographic and topographic conditions permit.

In contour stripping, an initial cut is established along a hillside at the point where the coal is exposed or crops out. Successive cuts are then made into the hill, the operation being discontinued where it is no longer economically feasible to further remove overburden. The stripping ratio, which compares the amount of overburden that must be removed to gain access to an amount of coal, or the limit of stripping determined by the physical limitations of excavating equipment, controls the depth to which mining occurs. Depending on thickness, continuity, slope, and quality of the coal seam; single or multiple seam stripping; type and conditions of overburden encountered; size of mine area; and capital return per ton of coal mined, the stripping ratio can be as high as 30:1. Contour stripping produces a long, sinuous band of strip-mined land that follows the contour of the land for miles.

Stripping in the eastern region primarily utilizes a number of specific unit operations including clearing and grubbing, overburden preparation (drilling), overburden removal, coal loading, coal hauling, backfilling and grading, and revegetation. Auger mining of coal is an alternative that may or may not accompany contour mining. Figure 3 shows contour mining with concurrent augering in the eastern region.

The initial step of any contour mining technique is to clear the affected area of vegetation cover by timbering or by removal with a dozer or by both. In some areas, the topsoil is then removed by scrapers or dozers. The overburden is then prepared by ripping with a dozer or by drilling and blasting or by both.

The next step is removal of the overburden, and at this stage major differences occur, depending upon the mining method used. In conventional contour stripping (fig. 4) dozers and front-end loaders remove the overburden from the coal and cast it over the edge of the bench on the down slope.

In the haulback method (fig. 5), overburden is loaded and "hauled-back" to the mined out area by using either a front-end loader and truck combination or scrapers or a combination of both. The overburden from the initial cut is generally placed below the coal outcrop.

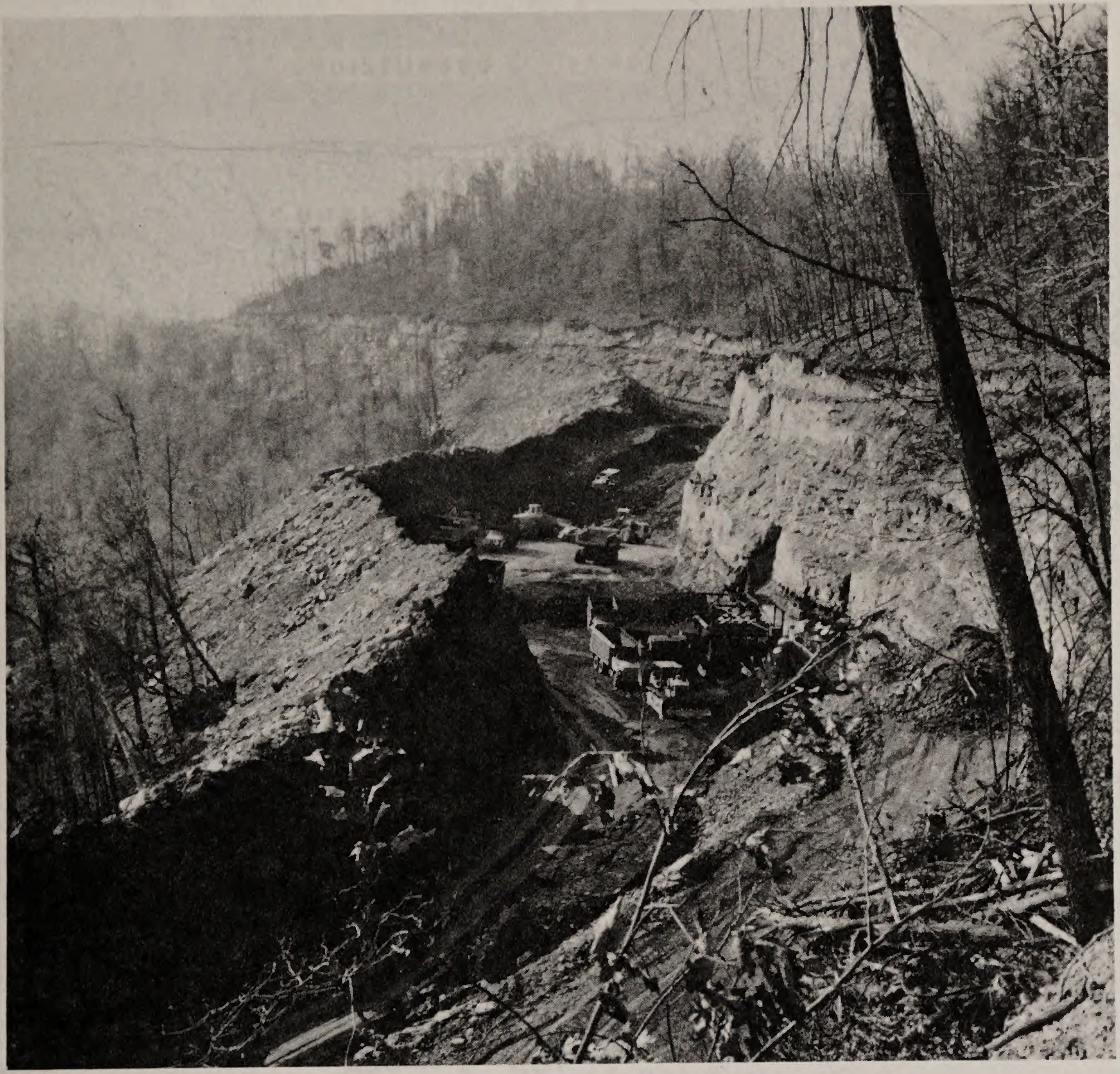


Figure 3.—Contour mining with concurrent augering in the eastern region. Photograph from the U.S. Forest Service.

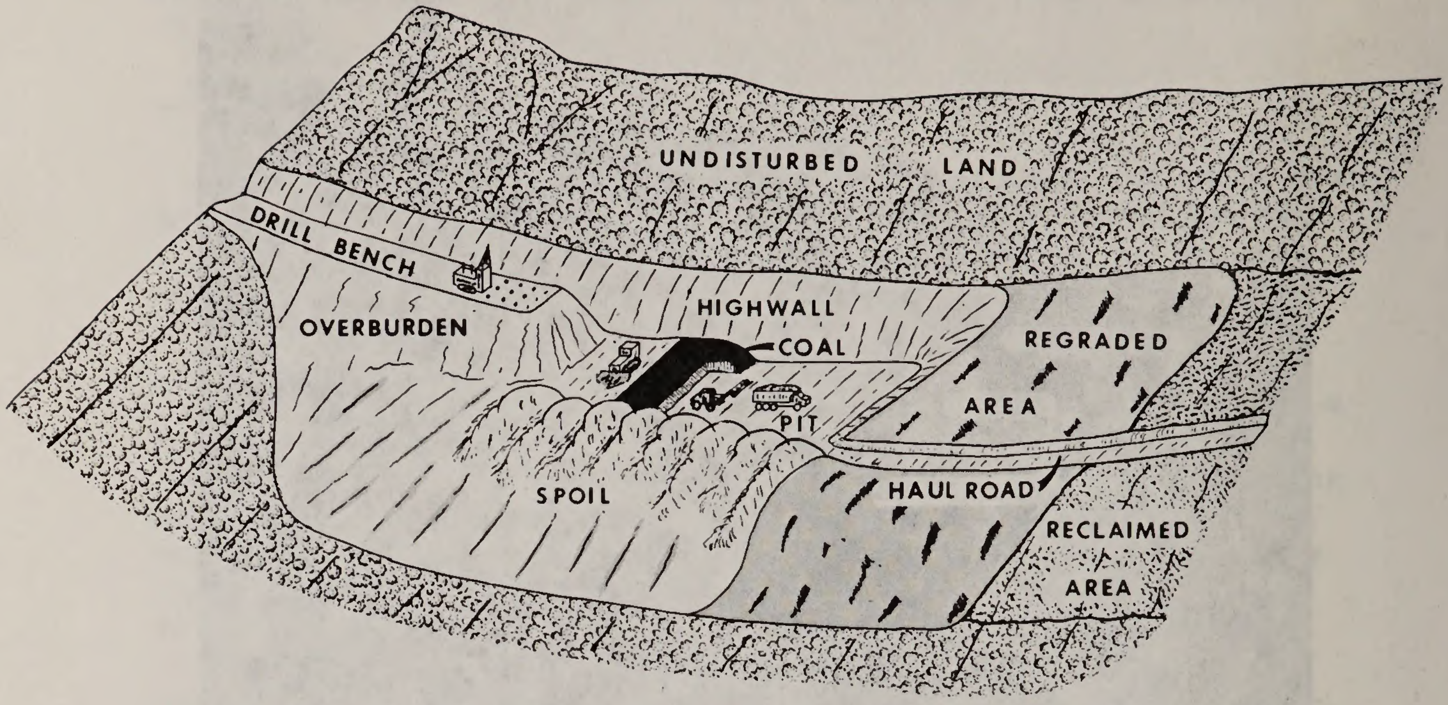


Figure 4.—Typical conventional contour strip method (U.S. Bureau of Mines, 1975a).

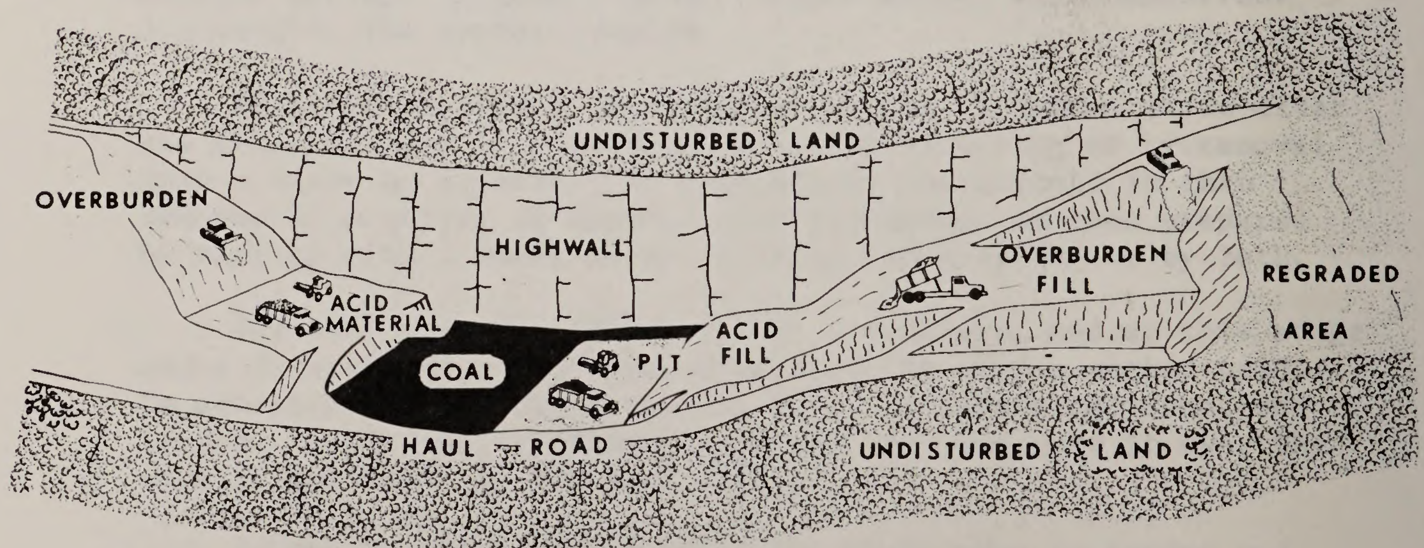


Figure 5.—Typical haulback method (U.S. Bureau of Mines, 1975a).

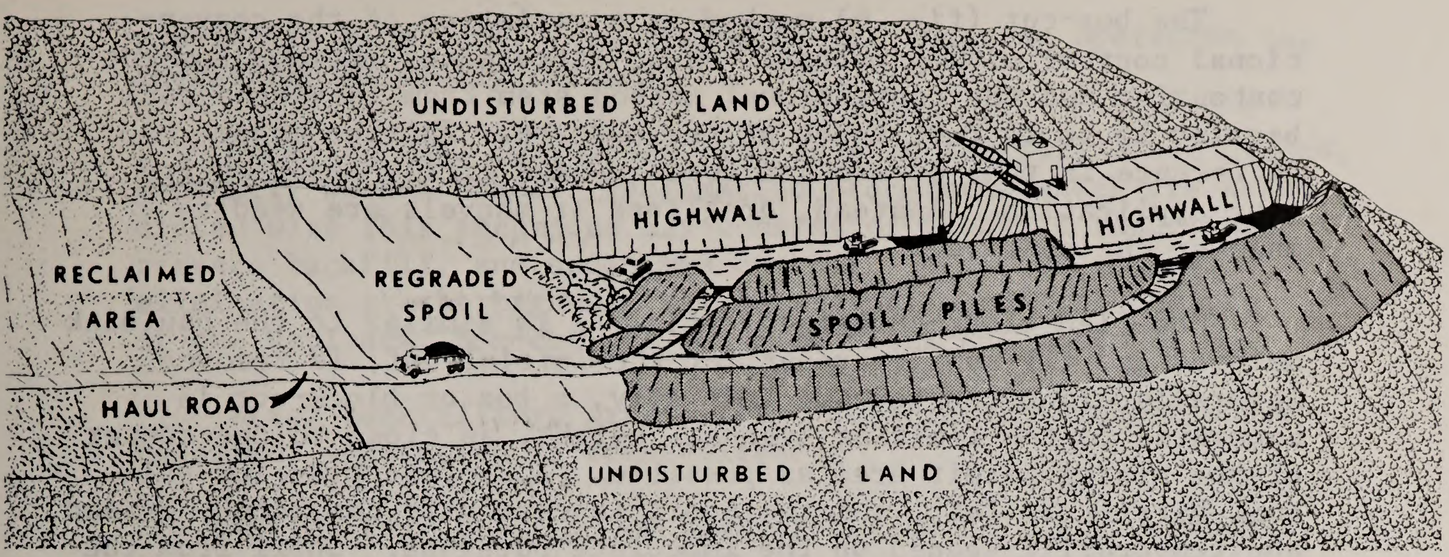


Figure 6.—Typical box-cut contour method (U.S. Bureau of Mines, 1975a).

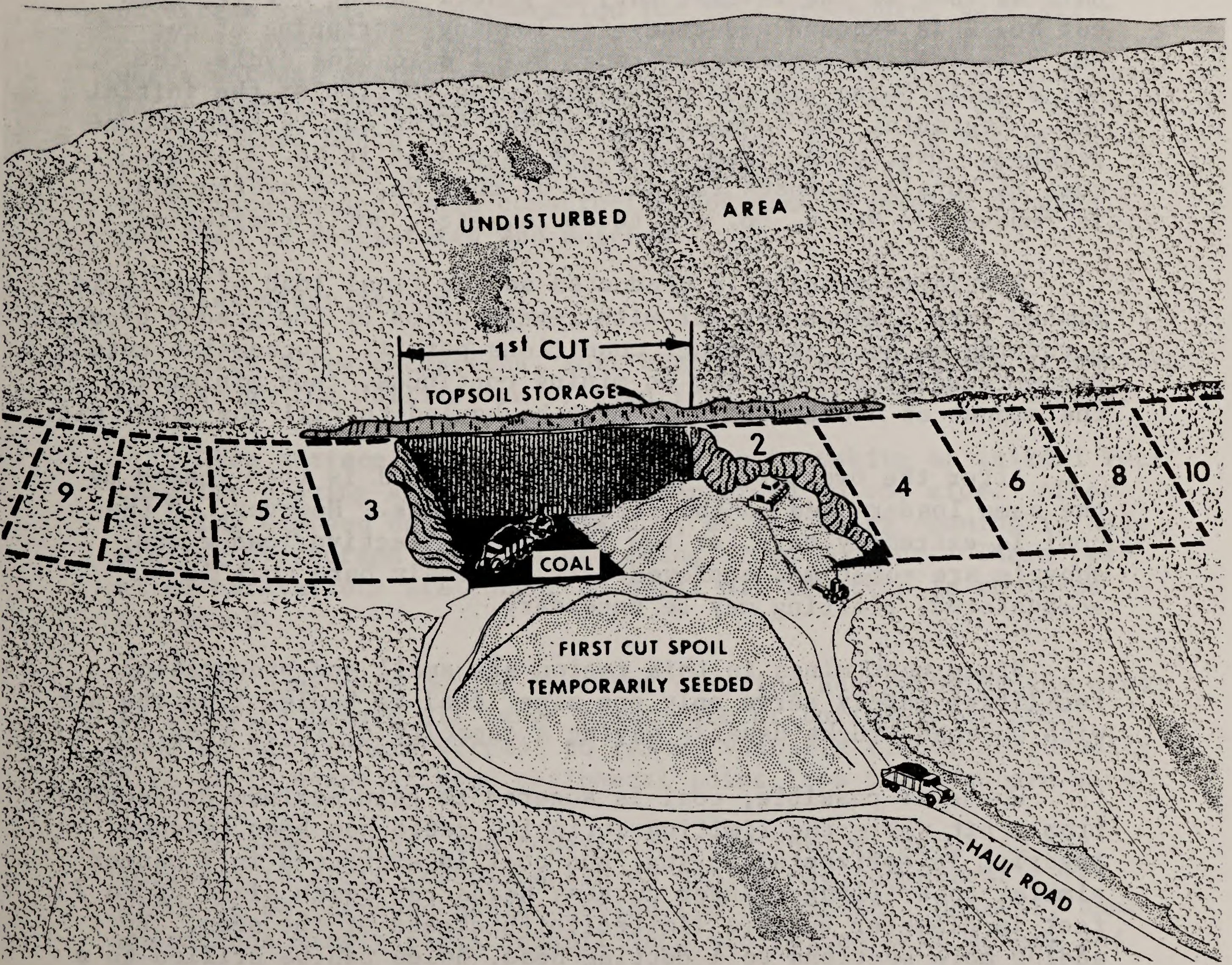


Figure 7.—Typical modified block-cut method (U.S. Bureau of Mines, 1975a).

The box-cut (fig. 6) method is a variation of the conventional contour mining method. Major differences between box-cut contouring and the conventional method stem from leaving a coal barrier 15 to 25 feet thick at the outcrop. Another major difference is that dozers and loaders have little major stripping application. Instead, draglines or shovels are used to uncover the coal seam.

Modified block-cut mining (fig. 7) is similar to the haulback method, and all spoil, except for the initial cut, is removed laterally along the bench. Initially, a box or block-cut is excavated to the limiting highwall height, as close to the center of the mining permit area as possible. A 25-foot wide low wall coal barrier is left, and the spoil is carefully compacted, graded, and temporarily seeded on the immediate outslope. Spoil from the initial cut may be deposited in a nearby hollow (valley or head-of-hollow fill). Coal from this initial cut is removed, after which overburden from cut No. 2 (approximately one-third to one-half as long as the initial cut) is placed in cut No. 1. When cut No. 2 is exposed and ready for loading, stripping of cut No. 3 begins and continues through No. 2's loading cycle, the No. 3 spoil being placed in the remaining portion of the initial cut. Regrading and revegetation of the first cut is then accomplished. Overburden from cut No. 4 is placed in No. 2 after coal is totally exposed in cut No. 3; then No. 5's overburden is removed to No. 3, No. 6's to No. 4, etc., until completion.

Remaining grading is conducted as the final load of spoil is pushed into a mined-out cut with revegetation of the graded blocks occurring as soon as weather conditions permit. Successive cuts become smaller and smaller as mining continues, thus minimizing the amount of overburden that must be hauled to fill the final pit.

After the overburden is removed, the coal is then loaded by the same loader used in the stripping process. However, if the coal is extremely hard, or too thick for effective loader use, shovels are sometimes employed. If extremely hard coal is encountered, blasting may be necessary.

Since most mines in this region are small and preparation facilities rarely serve only one mine, coal is hauled from the pit with on-road trucks usually having a capacity of 15-30 tons.

Whenever possible, coal is augered to gain maximum production from a pit where the limiting stripping ratio has been reached. Augering is horizontal boring, and coal is extracted in a manner similar to drilling. Auger cutting heads can reach sizes up to 7 feet in diameter but are limited to thickness of the seam. By adding more sections to a cutting head, holes can be drilled to a depth of more than 200 feet. Augering is difficult to use in conjunction with lateral or haulback techniques because as the overburden is removed from one cut,it is placed immediately in the previously mined cut. The timing of the augering operation is, therefore, extremely critical.

Once the coal is removed, the area is backfilled and graded, generally with a dozer. Reclamation procedures which are associated with this technique may consist of highwall reduction, terrace backfill, and sometimes contour regrading. Complete elimination of the highwall may be accomplished with the use of the haulback, box-cut, or modified block-cut methods.

After backfilling, grading, and topsoil replacement where required, vegetation is reestablished.

Valley fill (fig. 8) or head-of-hollow fill are methods where spoil is placed in or at the heads of narrow V-shaped, steep-sided hollows near or adjacent to the mining operation. These are the techniques most frequently employed in conjunction with mountaintop removal and some contour mining to dispose of excess spoil. In preparation for this procedure, vegetative cover is sometimes removed and rock drains are usually constructed where natural drains previously existed. Drains form a continuous water run-off conveyance system from the upper end of the hollow at the mined bench to a point several feet below the toe of the fill. The valley fill is built in compacted lifts or layers, is terrace graded, with construction of some diversion ditches, and then is revegetated and mulched.

b. Midwestern Region

With a few exceptions, most mining in the region is accomplished through the utilization of some form of area surface mining.

Area surface mining (fig. 9) begins by making an initial rectangular opening and casting the overburden to one side. After removing exposed coal from this cut, an adjoining opening is made, placing overburden into the preceding mined-out cut. These parallel excavations are conducted until all reserves in the area are mined.

The operation begins by first clearing and grubbing the area in order to remove all large plant life or buildings or both. Some surface owners attempt to remove valuable timber and usually pile it in heaps at some peripheral point from the proposed mine.

In some States, the topsoil is then removed by using pan scrapers to strip topsoil ahead of mining and concurrently replace it on regraded spoils behind the operation. However, some operations simply place topsoil onto stockpiles with dozers and truck-highlift combinations. Storage areas are sometimes temporarily seeded to prevent erosion and sedimentation.

Overburden preparation actually begins with topsoil removal which provides a suitable bench for drill rig operation. Drilling

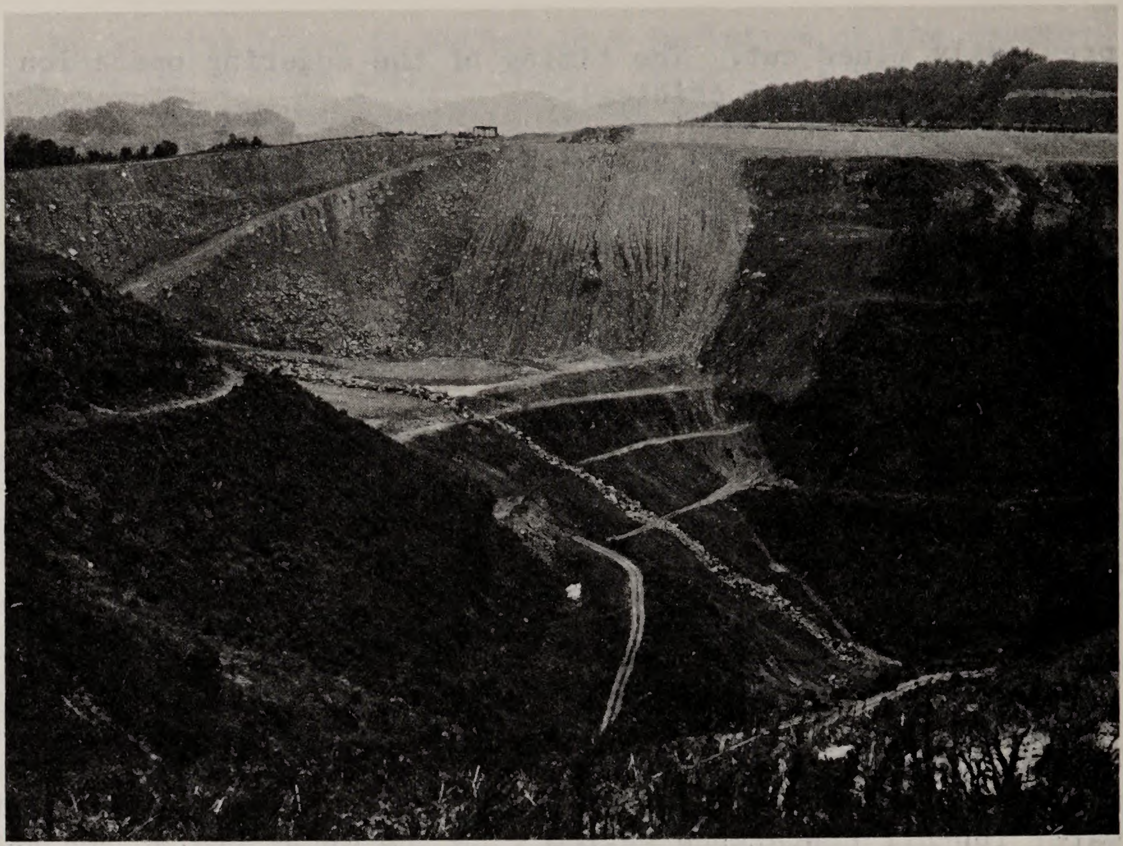


Figure 8.—Partially completed valley fill in the eastern region. Photograph from the U.S. Forest Service.

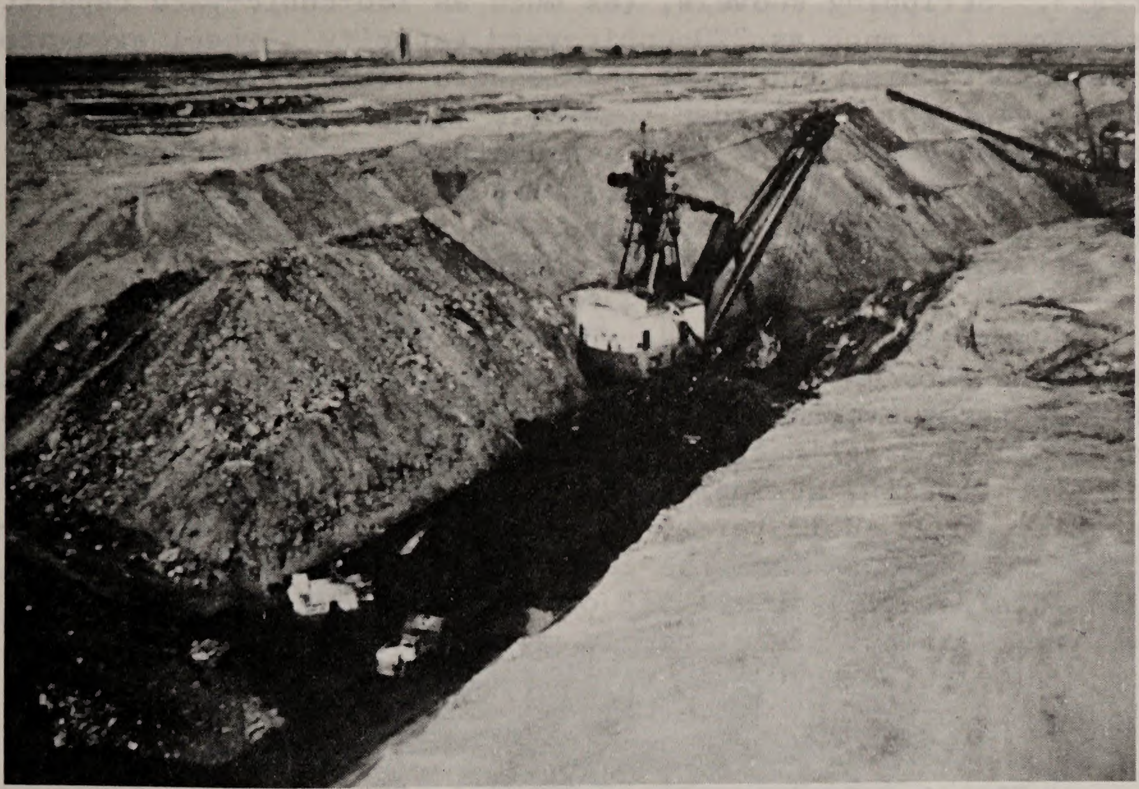


Figure 9.—Midwestern area surface mine. Photograph from Argonne National Laboratory.

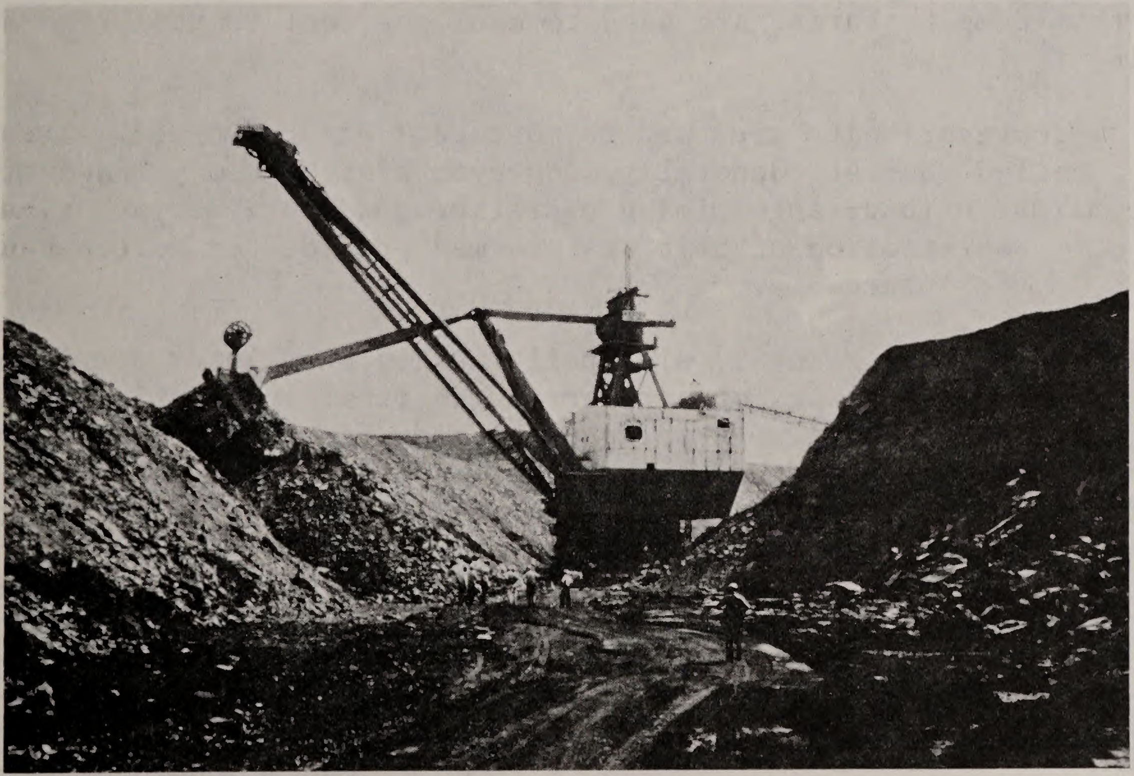


Figure 10.—Large stripping shovel being used in the Midwest to remove overburden. Photograph from Argonne National Laboratory.

and blasting are then commonly used to fracture the overlying strata. Stripping shovels, (as much as 180-cubic-yard capacity), draglines (as much as 220-cubic-yard capacity), wheel excavators, dozers, scrapers, and front-end loaders are utilized throughout this region for overburden removal. Draglines and shovels are most commonly used, and wheel excavators and pan scrapers are used in special situations. Figures 10, 11, and 12 show a large stripping shovel, dragline, and bucket-wheel excavator, respectively, being used in the Midwest.

Generally, in areas where coals lie closer to the surface, stripping shovels are used because of their speed of operation, while thicker overburden (150 feet in some areas) necessitates use of large draglines. Due to high overburden to coal ratios and flat terrain, stripping equipment generally has a minimum capacity of 35 cubic yards. Area mining in this region generally proceeds away from the central storage area or tipple, with cuts parallel to the dip of the coal seam. Applications of these machines are extremely varied throughout the region. Figures 13 through 20 show various methods utilized in the Midwest.

Once the coal is exposed, shovels, front-end loaders (rubber-tired) and highlifts (track-type) accomplish the task of coal loading in many midwestern surface mines. Electric- and diesel-powered shovels are most common in this region because very little, if any, coal fracturing is required. Off-highway vehicles, 35- to 150 ton capacities with end- or bottom-dump features, are used to haul the coal to the preparation facility.

Conveyor belts are used to move coal at some mines. These are called chutes. Generally, conveyor systems are permanent, requiring a long-range mining operation and stationary destination. Mobilization of belt systems may provide for more expanded use in the future.

After coal removal, all spoil cast by shovels or draglines is graded with dozers or scrapers, with final application of topsoil and grading with scrapers or end-dump trucks and dozers. Because backfilling the previous cut is dependent on overburden from the next cut to be mined, progressive area surface mining makes the last cut very hard to eliminate. Hauling all first-cut spoil to the last-cut trench is not commonly practiced because of the very long hauls associated with area surface mining operations. Highwall reduction methods are sometimes used for the last cut; i.e., the highwall is reduced to a long slope by grading of the surface over an extensive area.

c. Western Region

Mining operations commonly utilize area surface mining techniques (fig. 21) similar to those in the Midwest or some

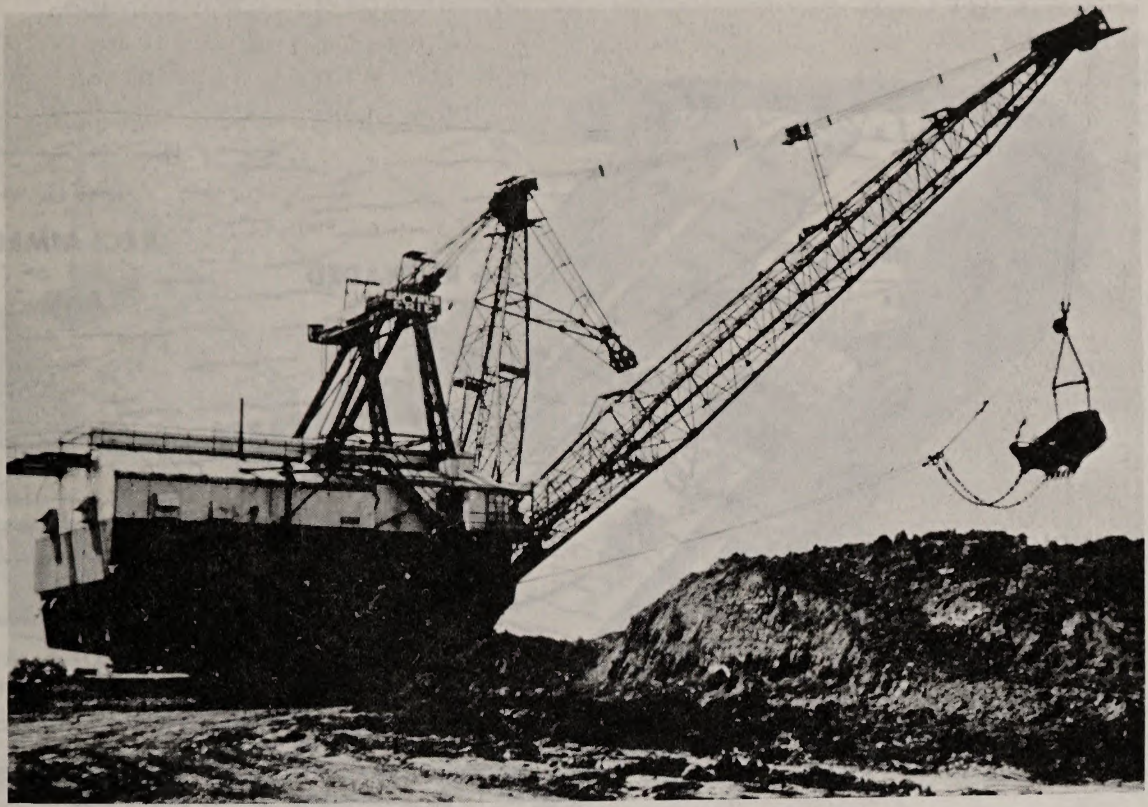


Figure 11.—Large dragline being used for overburden removal in the Midwest. Photograph from Argonne National Laboratory.

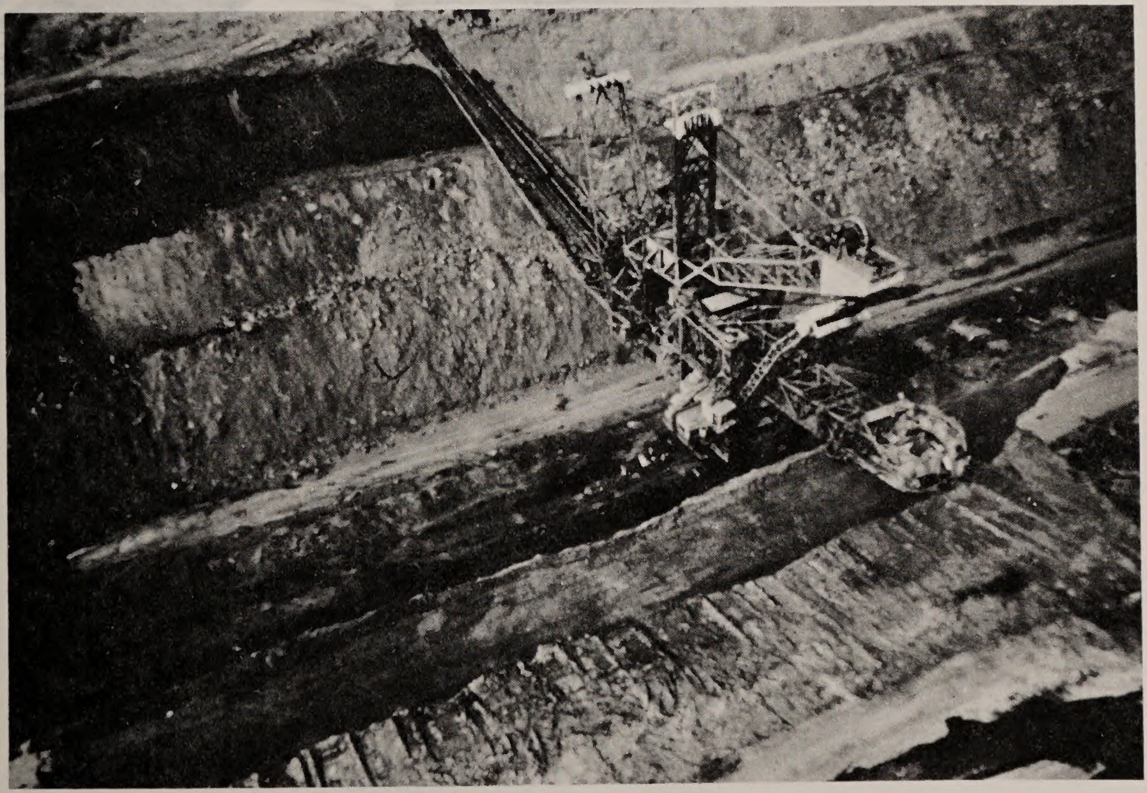


Figure 12.—Bucket-wheel excavator being used for overburden removal in the Midwest. Photograph from Argonne National Laboratory.

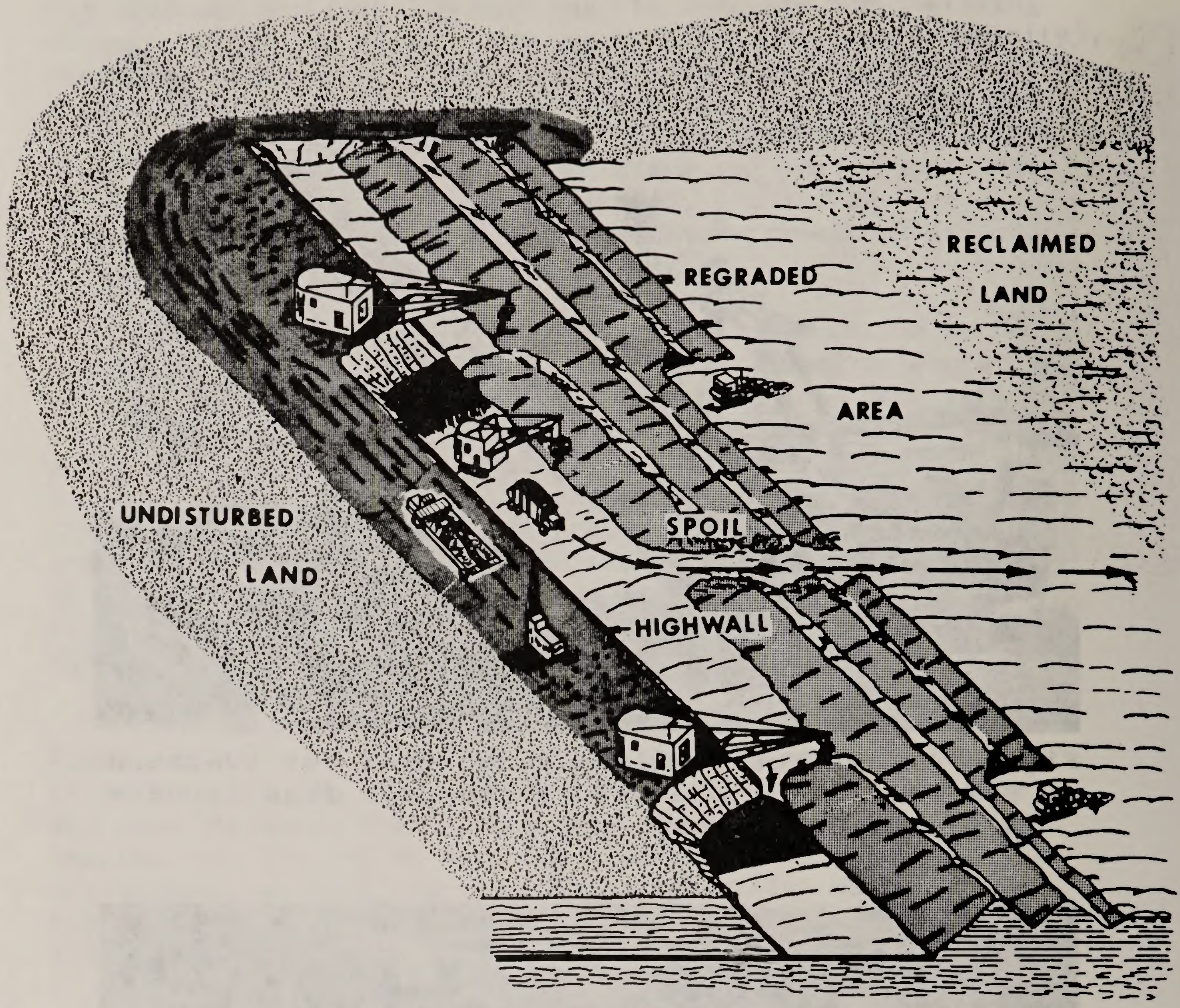


Figure 13.—Typical area surface mining with tandem draglines (U.S. Bureau of Mines, 1975a).

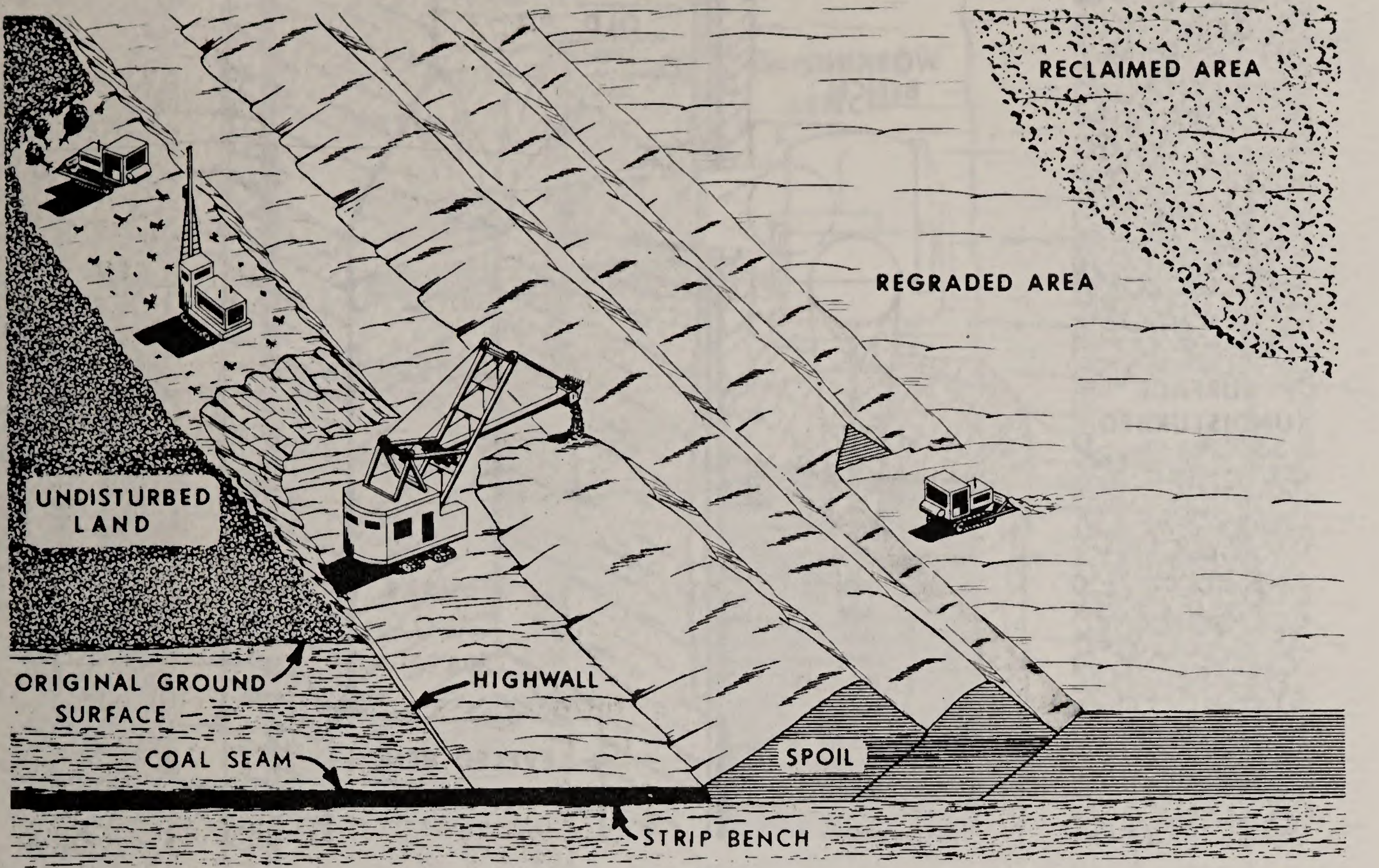
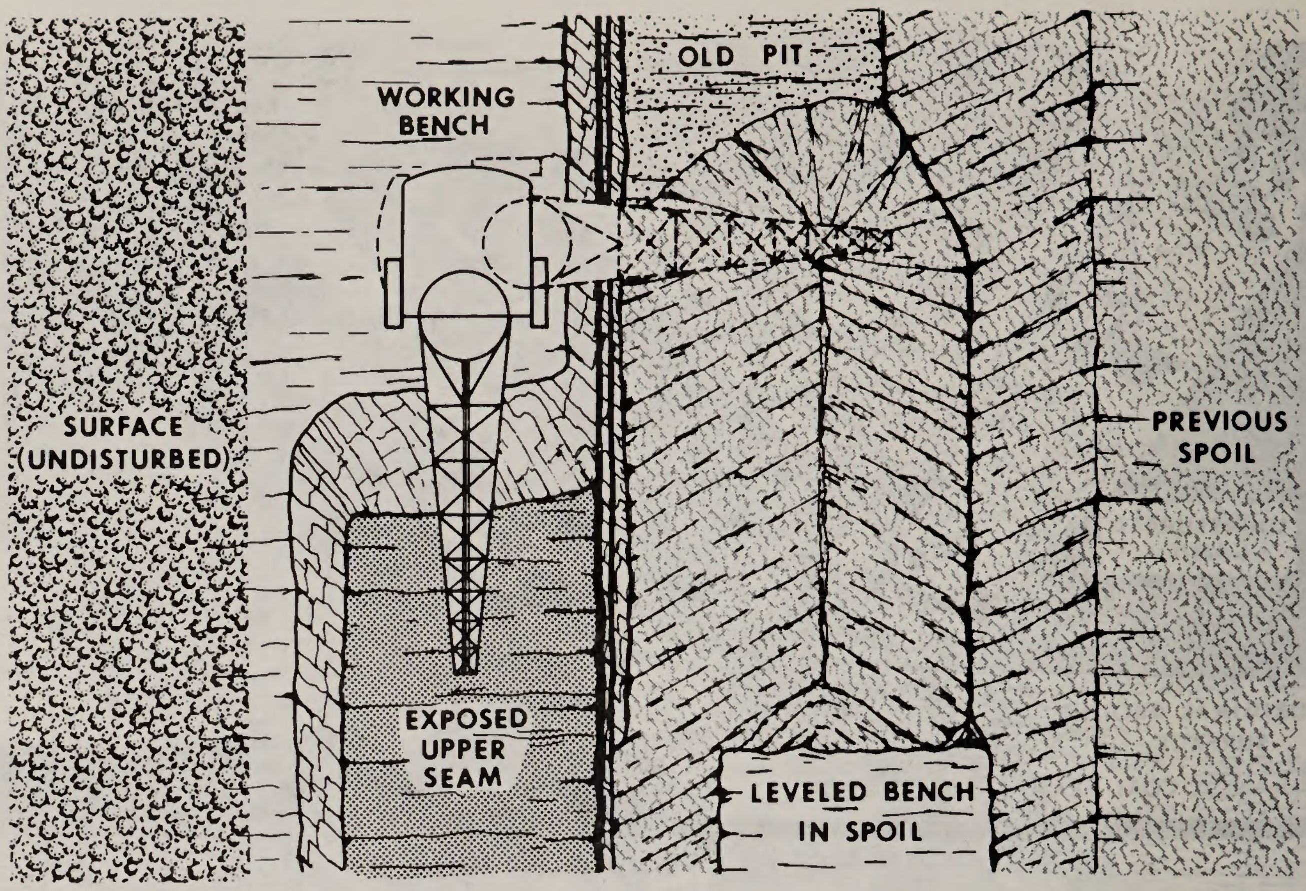
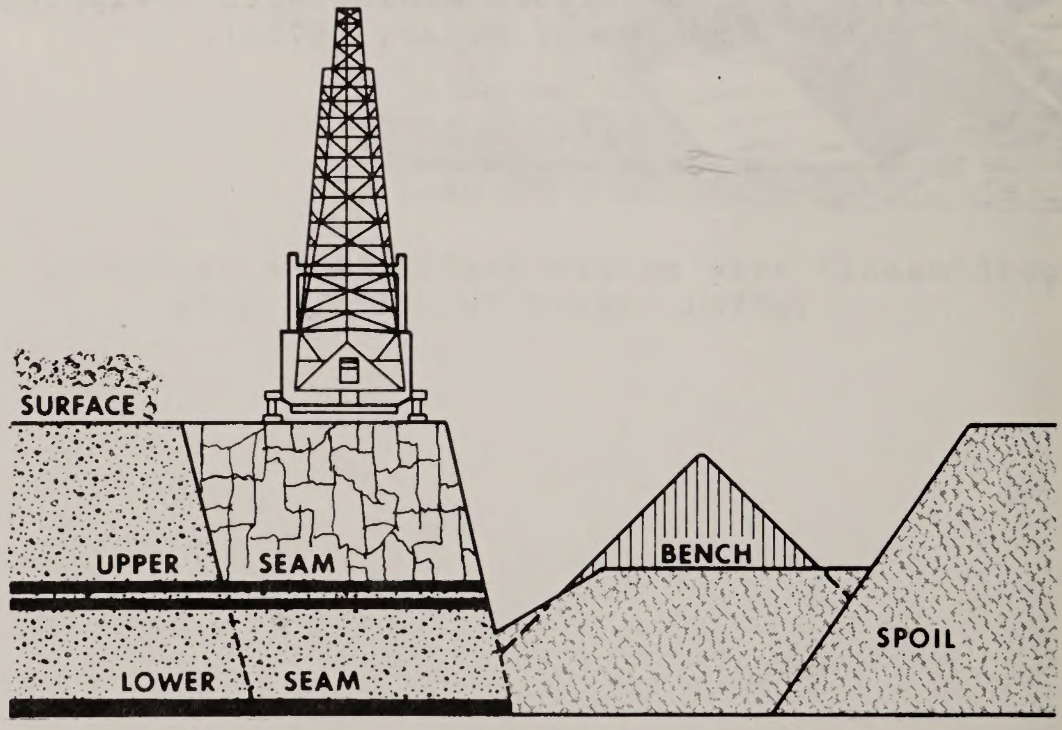


Figure 14.—Typical area surface mining with stripping shovel (U.S. Bureau of Mines, 1975a).

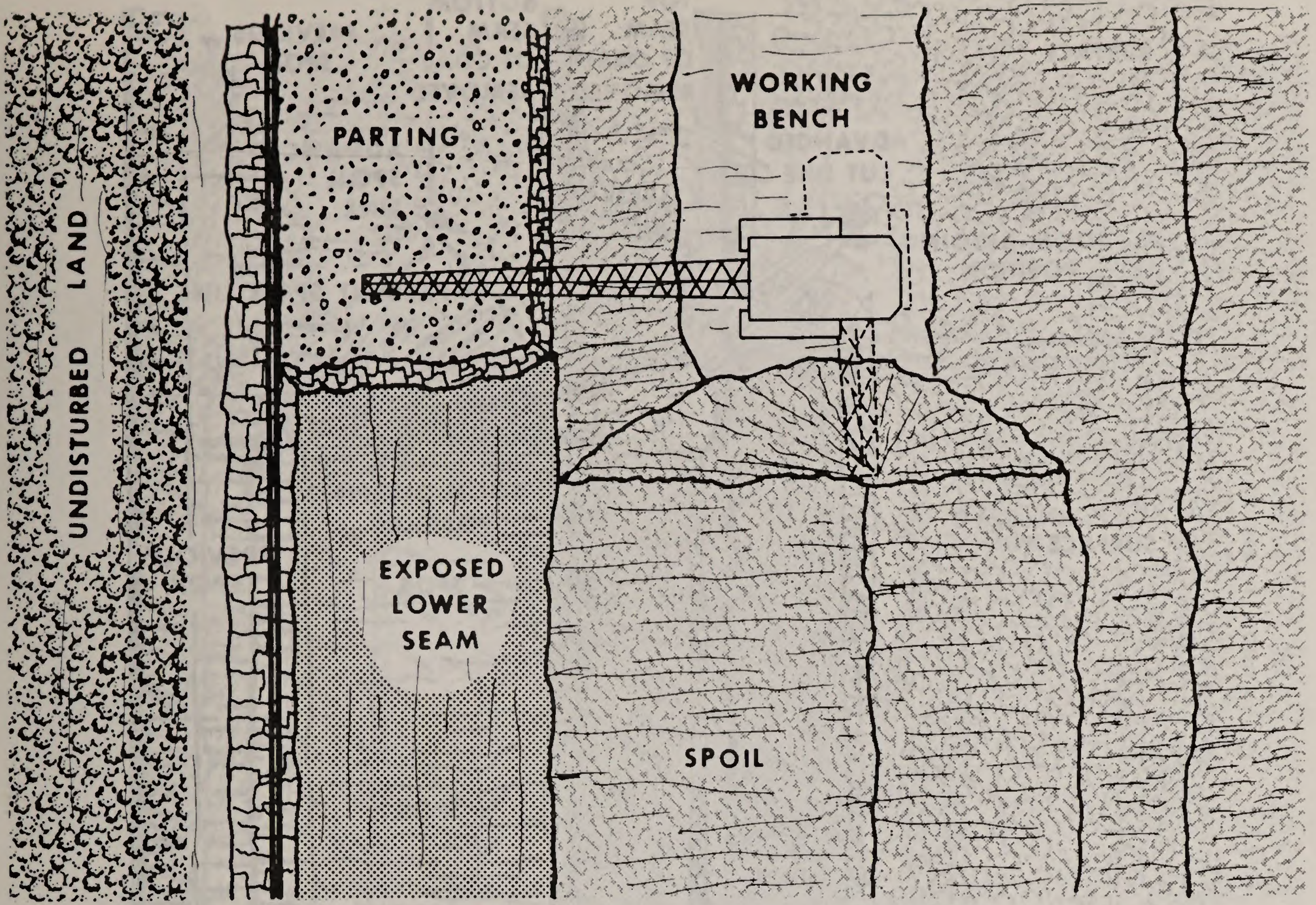


PLAN VIEW

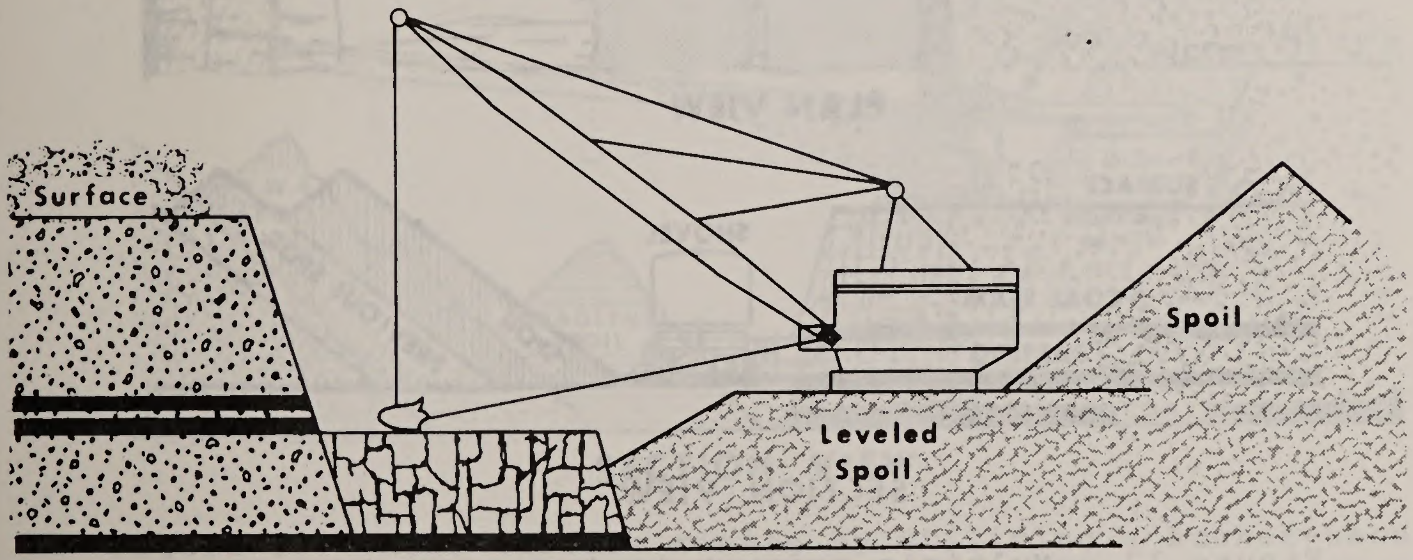


SECTION VIEW

Figure 15.—Multiple-seam dragline operation with upper seam exposed (U.S. Bureau of Mines, 1975a).



PLAN VIEW



SECTION VIEW

Figure 16.—Dragline exposing lowest seam from leveled spoil (U.S.Bureau of Mines, 1975a).

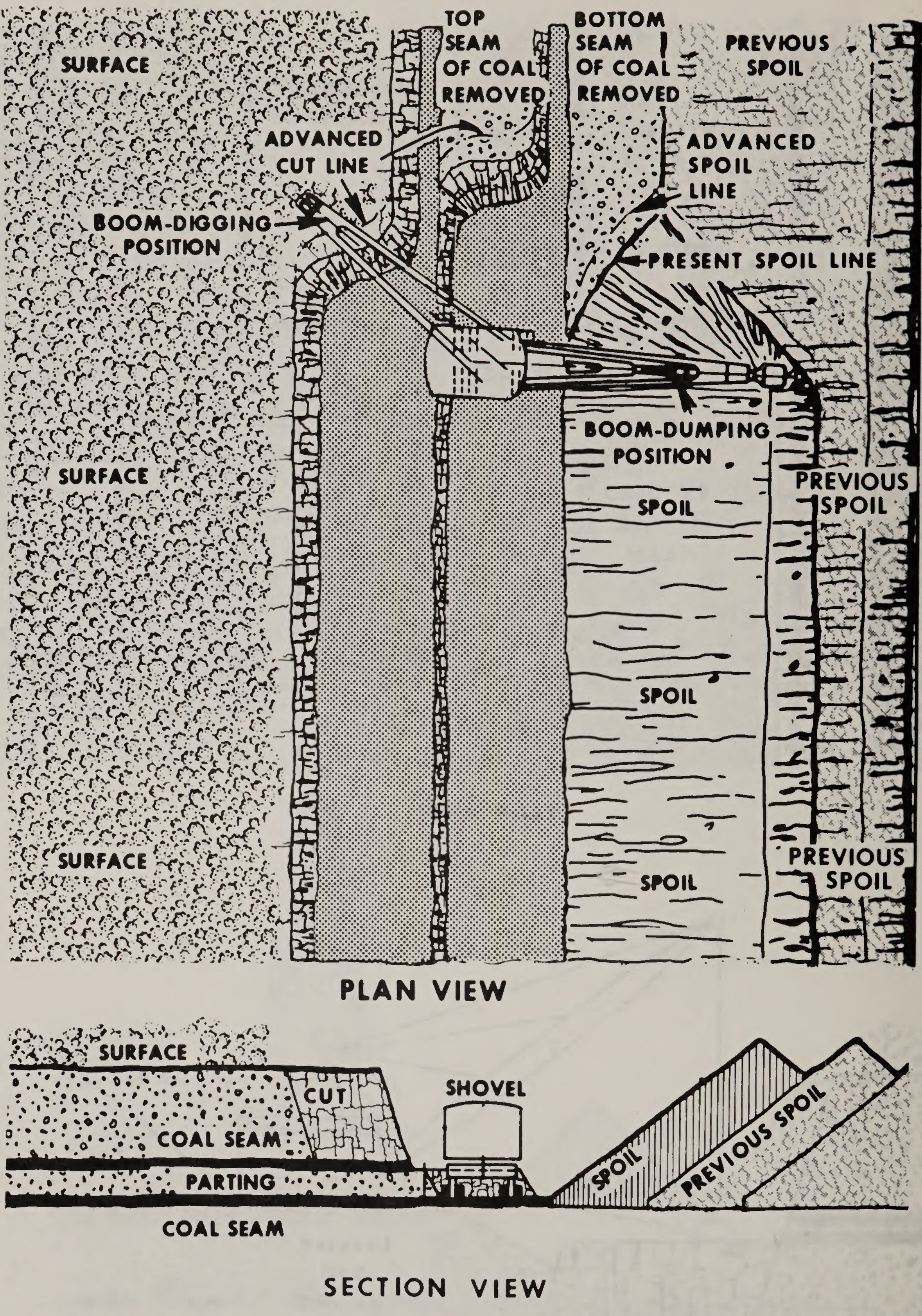
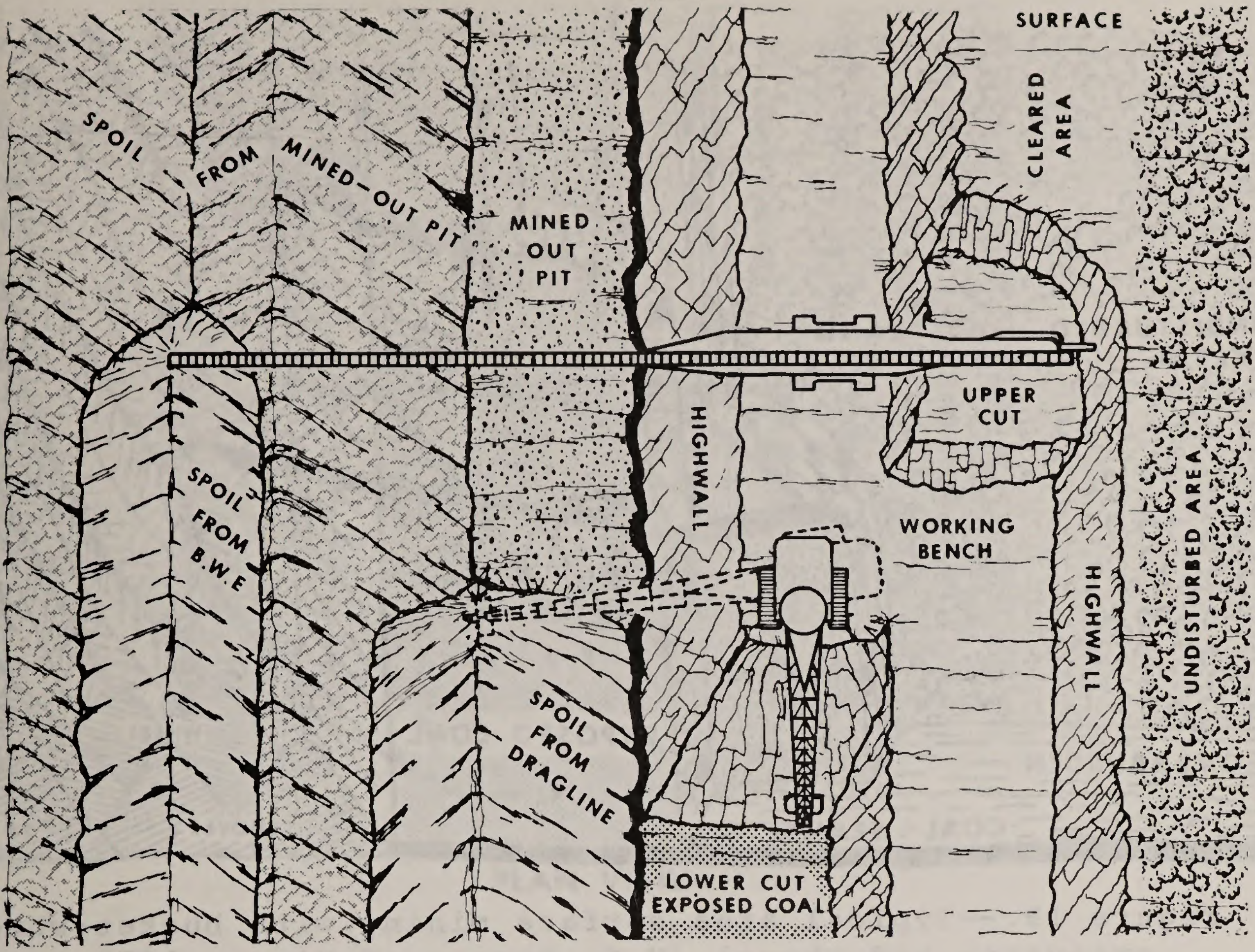
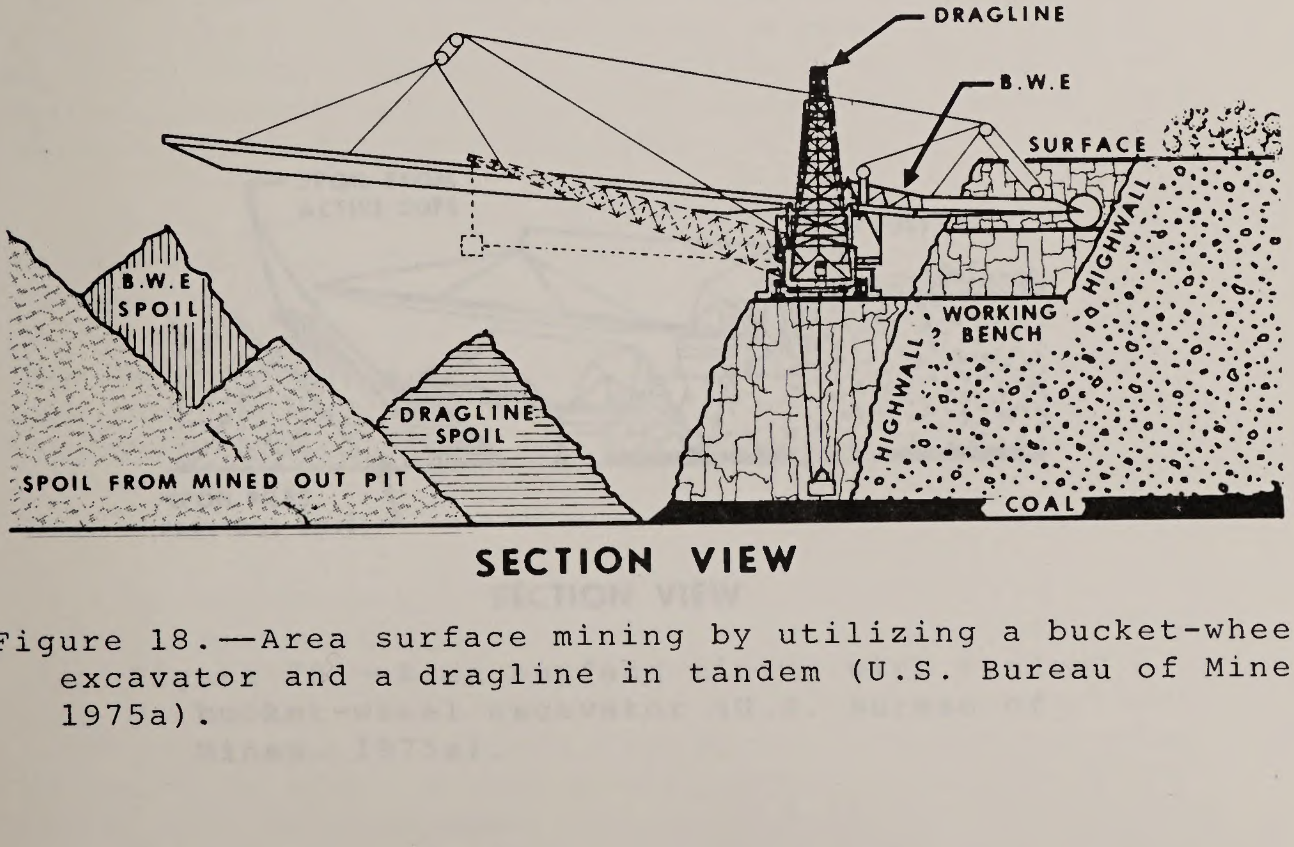


Figure 17.—Multiple-seam stripping operation with a shovel (U.S. Bureau of Mines, 1975a).



PLAN VIEW



SECTION VIEW

Figure 18.—Area surface mining by utilizing a bucket-wheel excavator and a dragline in tandem (U.S. Bureau of Mines, 1975a).

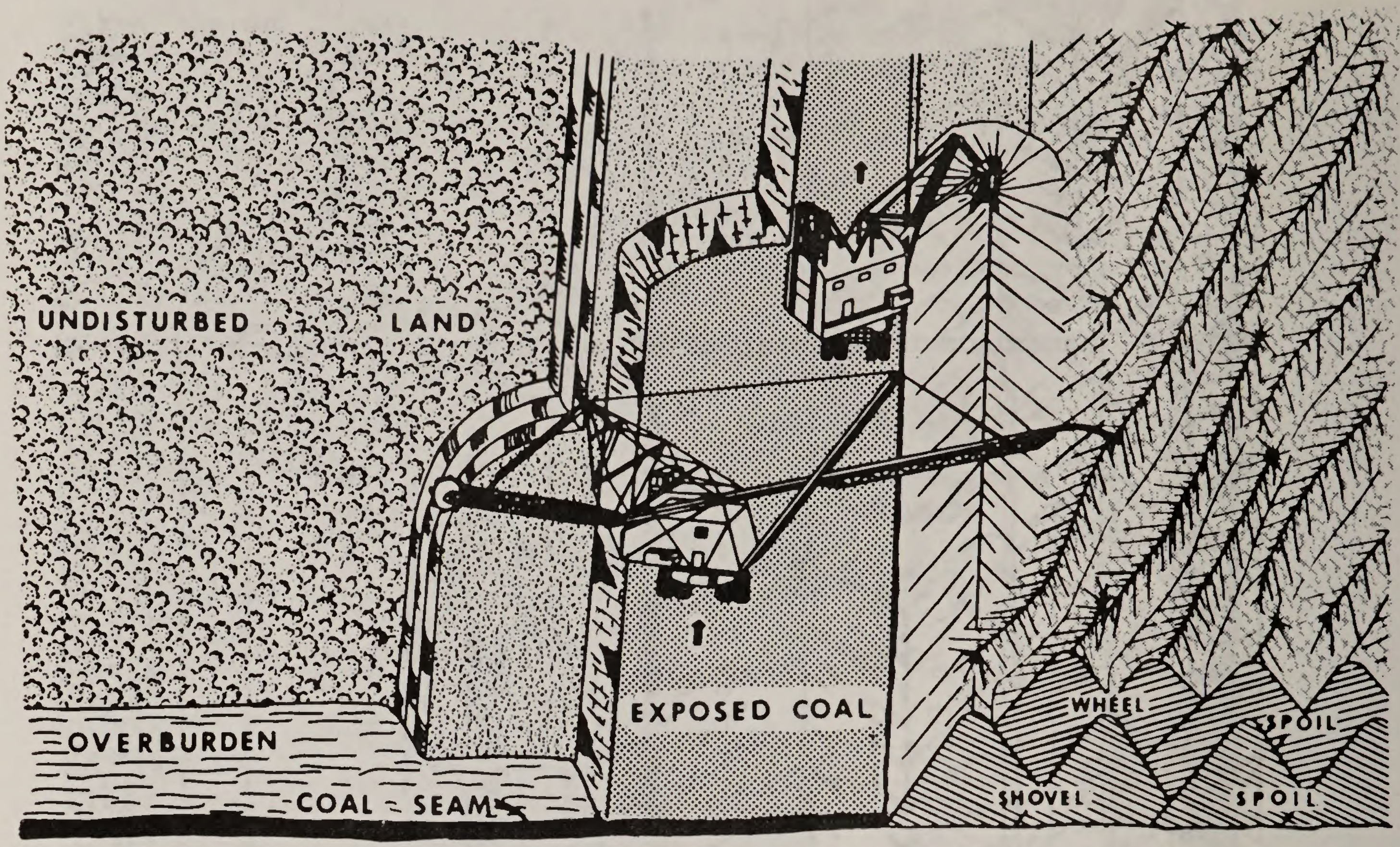
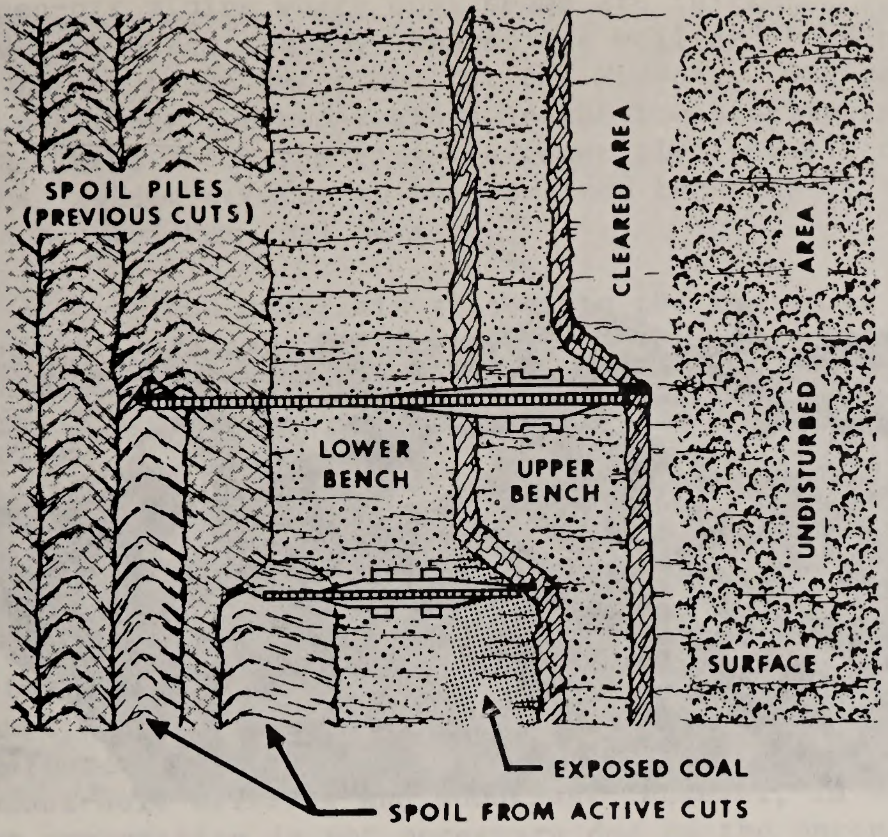
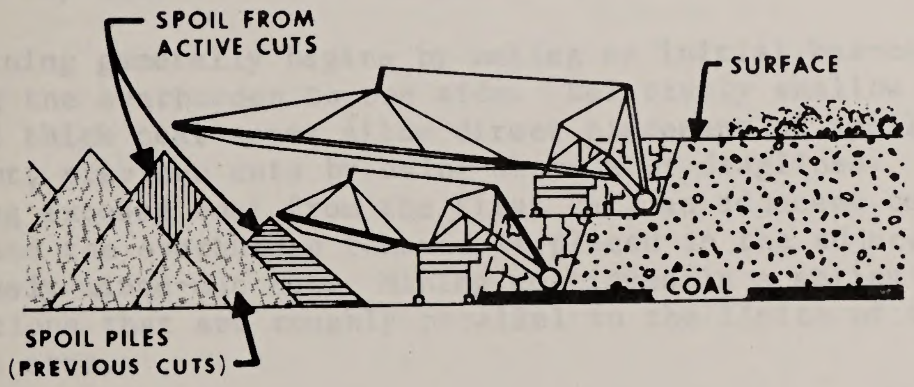


Figure 19.—Typical area surface mining with bucket-wheel excavator and shovel (U.S. Bureau of Mines, 1975a).



PLAN VIEW



SECTION VIEW

Figure 20.—Area surface mining with tandem bucket-wheel excavator (U.S. Bureau of Mines, 1975a).

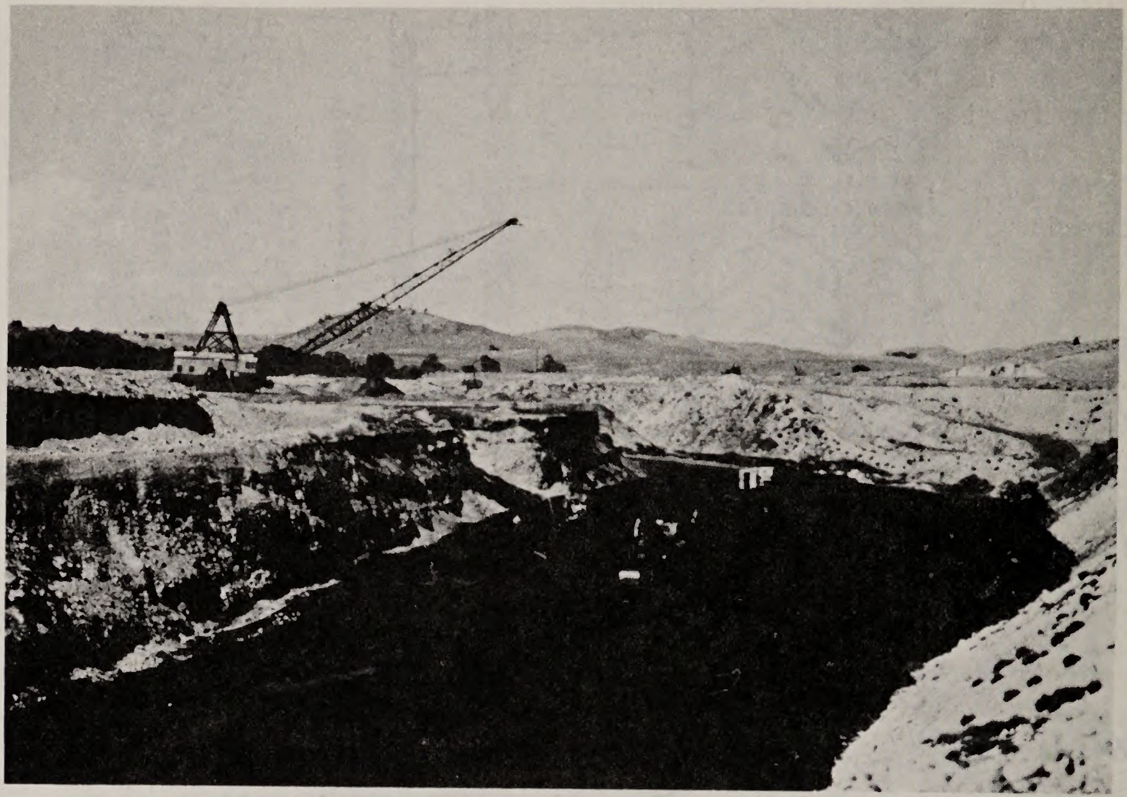


Figure 21.—Surface mine in the western region. Photograph from Argonne National Laboratory.

form of open-pit mining where coal seams are thicker. Techniques and procedures and unit operations utilized here are quite similar to those described for the Midwest. One primary distinction between the two regions is the lower stripping ratios in the West where the range is generally from 1:1 to 4:1. Such minimal ratios are due to the combined benefits of shallow overburden and thicker coal seams.

Much of the land underlain by coal in the region is used for agriculture, grazing, or forest. Clearing and grubbing requirements are minimal, and there is virtually no associated timbering. This operation, when necessary, is accomplished by dozers.

Topsoil removal and storage procedures are similar to those discussed in other regions. Stockpiles are temporarily seeded to prevent erosion losses.

Overburden preparation procedures are quite similar in all areas of the region, being determined largely by the character of the overburden at the mine site. Preparation procedures may include blast-hole drilling and shooting. However, in some cases, overburden preparation is not necessary due to the unconsolidated nature of overlying strata.

Basic stripping operations are performed by a wide range of equipment including shovels, draglines, scrapers, dozers, and front-end loaders. Overburden thicknesses in some areas are extremely small and spoil material can be moved by scraper or front-end loader. Where coal lies within 40 to 50 feet of the surface, stripping shovels may be utilized, while thicker overburdens may dictate use of draglines.

Mining generally begins by making an initial box-cut and casting the overburden to one side. Relatively shallow overburden and thick coal seams allow direct placement of spoil in adjacent, previous cuts by using shovels or draglines. After removing exposed coal from the first cut, an adjacent cut is made, and the overburden removed is placed in the adjacent previously mined-out cut. Mining continues in a series of excavations that are roughly parallel to the limits of the minable area.

The coal-loading operation probably represents the greatest variation between mining procedures in the three regions. Coal seams are extremely thick in many portions of the West and must be shot and loaded in benches (much the same as overburden is often stripped in benches in the Midwest). Since the volume of coal to be loaded is much greater, there can be more variability in types of equipment suitable for loading. Equipment that can be utilized for coal loading includes shovels, bucket-wheel excavators, front-end loaders, and self-loading scrapers. Selection of equipment for a specific site is dependent upon production capability and ability to load efficiently and economically.

In areas where there are single or multiple coal seams which dip more than 5 degrees, a variation of area surface mining may be practiced. With one such technique the removed overburden is cast on both sides of each strip cut above the highwall on the coal seam's downdip side and below the coal seam on the updip side, partially covering the highwall of the cut which exposed the underlying coal seam (fig. 22). Equipment usage is similar to that of area surface mining, except that no stripping shovels can be used due to the dipping seams. Draglines perform the primary stripping function with support from dozers and pan scrapers.

In parts of the region, 70-foot or thicker seams exist and overburden to coal ratios of 1:1 or less are not uncommon. Open-pit mining in these seams or "coal quarrying" (fig. 23) begins with uncovering a sufficient area of coal to allow extraction and to provide an open area for future overburden placement. Initial overburden is spread and stored on adjacent land areas and revegetated. Coal thickness usually necessitates a benching operation for removal with loading shovel. "Quarry" expansion can proceed in most any direction from this initial point, usually along only one course at a time until a limit is reached (natural barrier, property line, outcrop, etc.). Overburden material is trucked and dumped in mined-out areas of the pit and later graded to a contour compatible with surrounding terrain.

Coal haulage is quite similar to that in the Midwest. Because each mining operation generally has its own preparation facility (usually only a crushing plant), there is no need for highway haulage. End- or bottom-dump off-highway haulage equipment with capacities ranging from 35 to 200 tons is used. Since large-scale surface mining in this region is relatively new, many companies are currently experimenting with various types and sizes of haulage units and conveyor systems to determine those best suited to their needs.

Regrading in the West is quite similar to area-mining regrading described in other regions. The principal difference in regrading is the fact that the spoil volume may be much less than the volume of the pit or cut which must be reclaimed, due to relatively shallow overburden and thick coal seams. Soil and topsoil are returned to strip pits and graded to approximate original topography by using dozers and scrapers. This treatment frequently leaves a gently rolling final grade, which may be below the elevation of the original land surface.

d. Environmental Impacts

Surface mining of coal completely eliminates existing vegetation, destroys the genetic soil profile, displaces or destroys

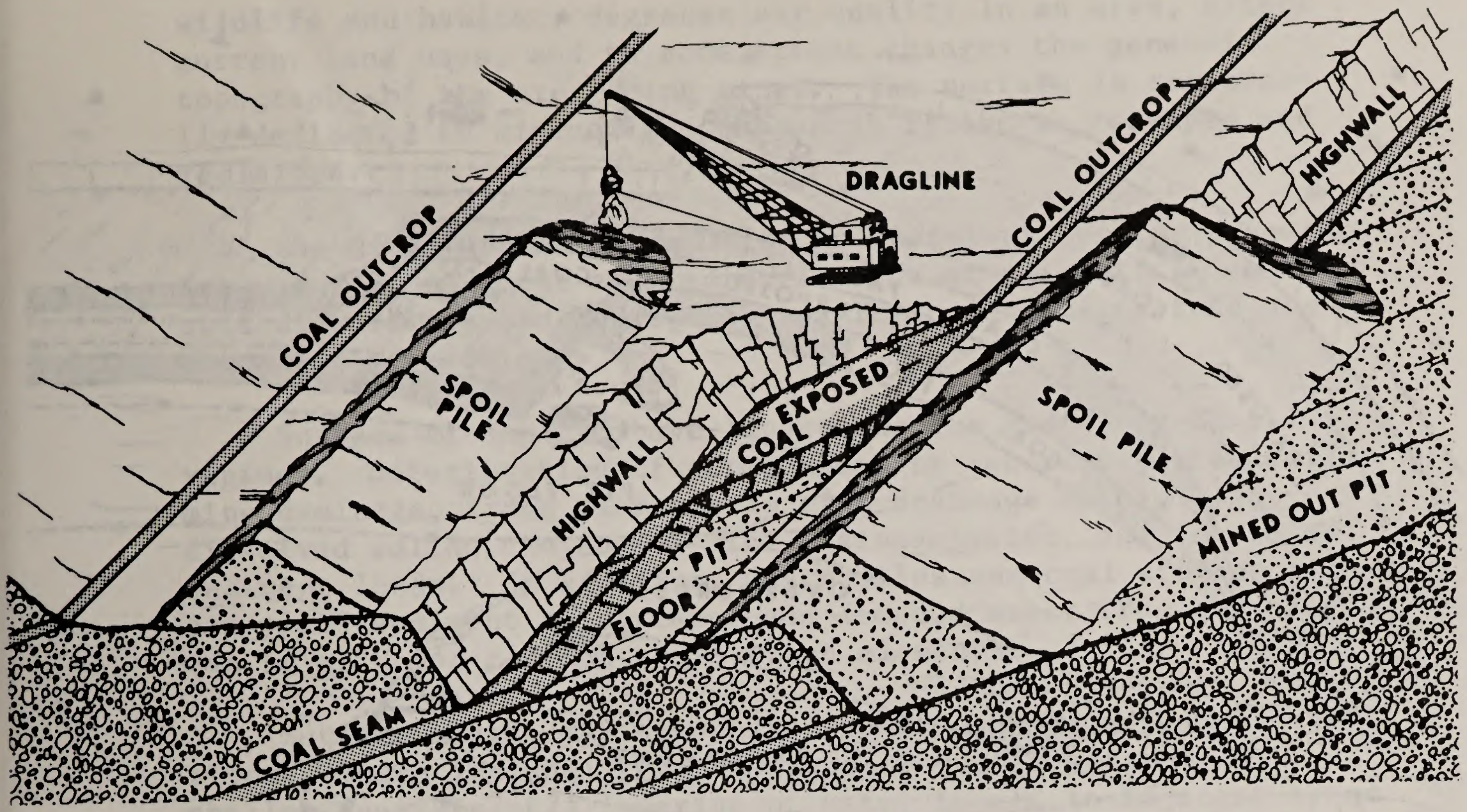


Figure 22.—Typical mining with dipping seams (U.S. Bureau of Mines, 1975a).

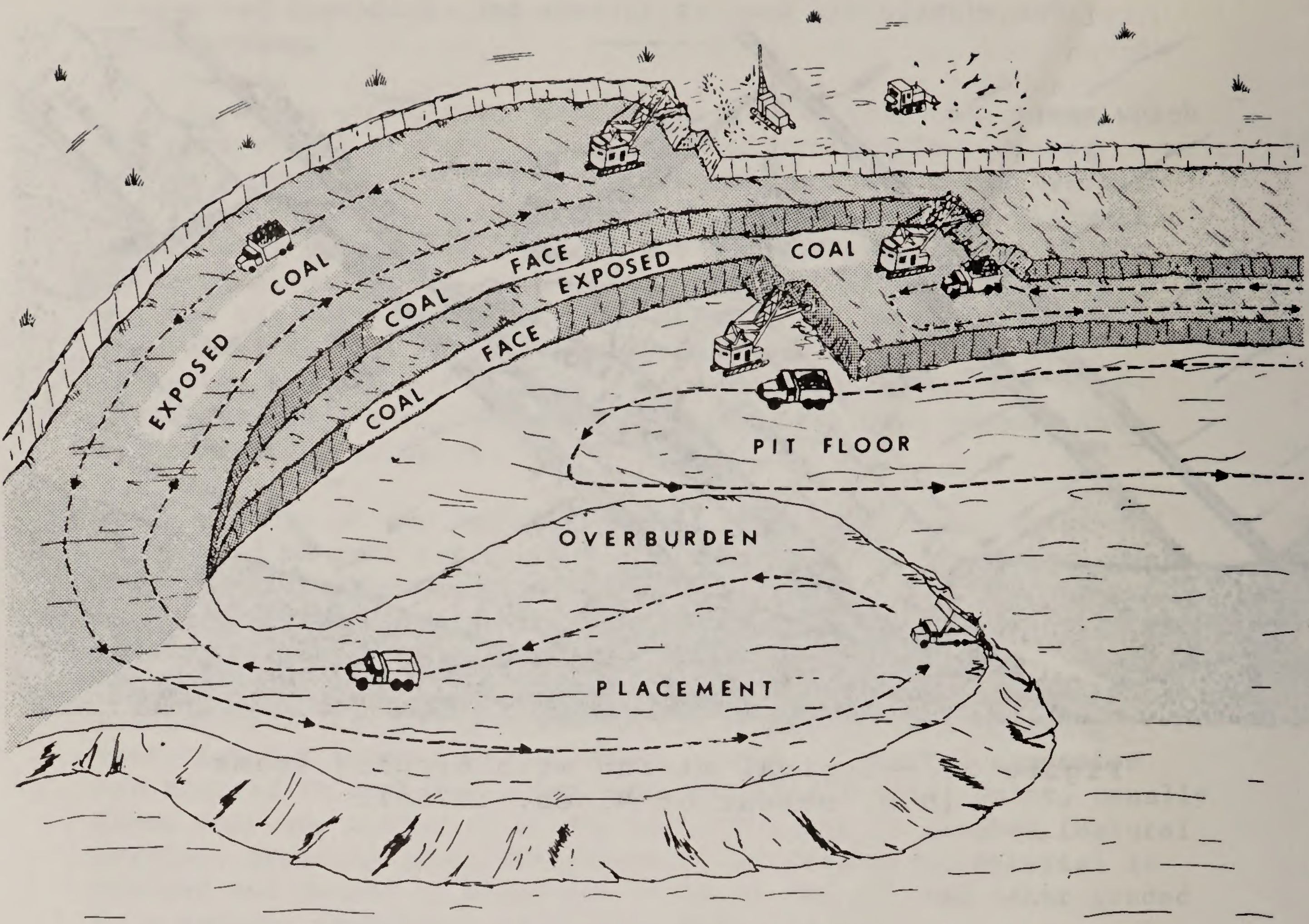


Figure 23.—Typical open-pit mining with a thick seam (U.S. Bureau of Mines, 1975a).

wildlife and habitat, degrades air quality in an area, alters current land uses, and to some extent changes the general topography of the area being mined. The surface is temporarily dedicated to mining land use until it can be reshaped and reclaimed.

The micro-organism community and nutrient cycling processes are upset by movement and redistribution of the soil. Generally, soil disturbance and compaction result in conditions that are conducive to erosion.

Surface mining can have impacts on the hydrology of all regions. Deterioration of stream quality can result from acid mine drainage, trace elements in mine drainage water, high dissolved solids content of mine drainage water, and increased sediment loads. In addition, waste piles and coal storage piles can yield sediment to streams, and leached water from the piles can be acid and contain toxic trace elements.

Surface mining may also have impacts on ground-water supplies. These include: (1) drainage of usable water from shallow aquifers, (2) lowering of water levels in adjacent areas and changes in flow directions within aquifers, (3) contamination of usable aquifers below the mining operation due to downward leakage of poor quality mine water, and (4) increased infiltration of precipitation on spoil piles. Where all the coal is removed during surface mining operations, and little or no carbonaceous shale is present in the spoil, increased infiltration may result in: (1) diminished runoff and erosion from spoil piles, (2) recharge of good quality water to the shallow groundwater aquifers, (3) increased baseflow to nearby streams. However, where coal or carbonaceous shales are present in the spoil, infiltration could result in poor quality water which might contaminate both ground water and nearby streams for long periods of time if contaminants are present. Lakes formed in abandoned surface mining operations are more likely to be acid if there is coal and carbonaceous shale present in the spoil piles, especially if these materials are near the surface of the piles and contain pyrite.

Extreme flood events can cause severe damage to improperly constructed or located roads, plant facilities, waste and coal storage piles, settling basin dams, surface-water diversion structures, and the mine itself. Besides the danger to life and property, large amounts of sediment and poor quality water could have detrimental effects many miles, but may be less than two miles, downstream from the mine site. (U.S. Department of Agriculture 1082, page 7).

Soil removal from the area to be surface mined alters or destroys many of the natural soil characteristics. The structure may be disturbed by pulverization or aggregate breakdown.

Removal may reduce soil permeability and increase bulk density, and storage can result in a loss of organic matter.

Removal of vegetative cover and the activities associated with construction of haul roads, stockpiling of topsoil, displacement of overburden and hauling of spoil and coal increase the quantity of dust around the mining operations. This dust degrades the air quality in the immediate area, can have an adverse impact on vegetative life and constitutes a health and safety hazard to the mine worker and the public.

Surface mining of coal causes direct and indirect damage to wildlife (Spaulding and Ogden, 1968). The impact on wildlife stems primarily from disturbing, removing, and redistributing the land surface. Some of the impacts are short term and confined to the minesite; others may have far-reaching, long-term effects. The direct effect on wildlife is the destruction or displacement of all species in the areas of excavation and spoil piling. The more mobile wildlife forms like game animals, birds, and predators, will leave these areas. The more sedentary animals like invertebrates, many reptiles, burrowing rodents, burrowing owls, ferrets and badgers, may be directly destroyed. If streams, lakes, ponds, or marshes are filled or drained, fish, aquatic invertebrates, and amphibians will be destroyed. Animal populations displaced or destroyed can eventually be replaced from populations in the surrounding ranges provided the habitat is eventually restored. An exception could be the loss of an endangered species.

Many wildlife species are highly dependent on the vegetation growing in natural drainages. This vegetation provides essential food and sometimes nesting and escape cover during various seasons of the year. Any activity that destroys this vegetation lowers the quality and quantity of the habitat of ponds, reservoirs, marshes, and wetlands essential for waterfowl, shore birds, and many terrestrial forms. The head-of-hollow fill method is of particular significance to wildlife habitat in the eastern and western regions. In the East the narrow, V-shaped, steep-sided hollows near ridgetops are frequently inhabitated by potentially endangered or restricted animal and plant species. In the arid parts of the West these hollows often offer the only conditions suitable for a wide range of species. Extensive placement of spoil in these canyons would eliminate important habitat for a wide variety of species.

Broad and long-lasting impacts on wildlife are caused by habitat impairment. The life requirements of many animal species do not permit them to adjust to changes created by land disturbance. These changes impair the habitat component called living space. The degree to which a species or an individual animal will tolerate man's competition for space varies. Some species will tolerate very little disturbance before moving. In instances where a particularly important habitat is restricted, such as a lake, pond, or primary breeding area, the species could be eliminated. Big game and other animals displaced from their home ranges may be forced to use adjacent areas already stocked to carrying capacity. This overcrowding usually results in degradation of the remaining habitat, lowered carrying capacity, reduced reproductive success, interspecies and intraspecies strife, and potentially greater losses to the wildlife population than the number of originally displaced animals.

Overburden removal, if improperly done, causes loss of topsoil, exposes parent material, and creates vast wastelands. Pit and spoil areas are not capable of providing food and cover for most forms of wildlife. Without rehabilitation, these areas must go through a weathering period which may take a few years or many decades before vegetation is established they become suitable habitat. With rehabilitation, the impacts on some species are less severe. Man cannot immediately restore natural biotic communities. He can, however, give nature a boost, through rehabilitation efforts geared to wildlife needs. Rehabilitation not geared to the needs of wildlife species, or improper management of other land uses after rehabilitation, can preclude reestablishment of many members of the original fauna.

Degradation of aquatic habitats has been a major impact from surface mining and may be apparent to some degree many miles from the mining site. Sediment pollution is common with surface mining. Research in one State indicated sediment yields increased 1,000 times over their former level as a direct result of strip mining. In this study approximately 1 acre-ft of sediment is produced annually for every 80 acres of disturbed land in the Appalachian Coal Province (Spaulding and Ogden, 1968). The effects of sediment on aquatic wildlife vary with the species and amount of pollution. These pollutants can kill fish directly, bury spawning beds for important species like trout and salmon, reduce production of aquatic organisms, reduce light transmission, alter temperature gradients, fill in pools, and spread flows. These changes destroy the habitat of some species and sometimes enhance the habitat for undesirable species.

Existing conditions are already marginal for some of the cold-water game fish and anadromous species. Sedimentation of these waters can result in their elimination. The heaviest sediment pollution of a given drainage normally comes within 5 to 25 years after mining (Spaulding and Ogden, 1968). In some areas, unrevegetated spoil piles continue to erode even 50 to 65 years after mining.

The presence of toxic-forming materials exposed as a result of surface mining can affect wildlife by eliminating habitat and by causing direct destruction of certain species. Lesser concentrations can suppress productivity, growth rate, and reproduction of many aquatic species. Acids, dilute concentrations of heavy metals, and high alkalinity can cause severe wildlife damage in some areas. The duration of toxic waste pollution can be long term. Estimates of the time required to leach exposed acidic materials in the East range from 800 to 3,000 years (Spaulding and Ogden, 1968).

In certain situations, surface mining may have beneficial impacts on some wildlife. Where large, continuous tracts of forest, bushland, sagebrush, or grasslands are broken up during mining, increased edges and openings are created. Preferred food and cover plants can be established in these openings to benefit a wide variety of wildlife. Under certain conditions, creation of small lakes in the strip area can also be beneficial. These waters may become important water sources for a variety of wildlife inhabiting adjacent areas. Many lakes are initially of poor quality as aquatic habitat after mining (Waller, 1967). These lakes may require various levels of habitat enhancement and management to be of significant wildlife value.

The surface mining operation and coal transportation facilities are fully dedicated to coal production for the life of the mine. Mining activities incorporating little or no planning to establish postmining land use objectives result in the reclamation of the disturbed lands to a land use condition not equal to the original use. Existing land uses such as grazing and crop and timber production are temporarily eliminated from the mining area. High value, intensive land use areas like urban and transportation systems are not normally affected by mining operations. If mineral values are sufficient, these improvements may be removed and replaced in an adjacent area.

Surface mining operations have resulted in creation of highwalls as high as 200 feet. Such highwalls may result at the end of a surface mining operation where stripping becomes uneconomic or where a mine reaches the property line that is the extent of a current lease or holdings. These highwalls are hazards to man, wildlife, and domestic livestock. They may impede normal wildlife migration routes. However, highwalls may provide habitat for some species of wildlife. In the East there are over 20,000 miles of highwalls created by coal mining. In some cases highwalls circumscribe entire mountains (Spaulding and Ogden, 1968).

Natural fires have occurred in coalbeds underground. When coalbeds are exposed, the fire hazard is increased. Spontaneous ignition is caused when coal oxidizes and the air flow is insufficient to dissipate the heat. Weathered coal can also increase the ground temperatures if it is left on the surface. Almost all fires in solid coal are caused by man, lightning, and forest or prairie fires. Where such fires occur, there is attendant air pollution from the emission of smoke and noxious fumes into the atmosphere.

Due to intensive mechanization, surface mines require fewer workers than underground mines on an equivalent production basis. The influence on population is therefore not generally as significant. In low population areas, however, local populations cannot provide the needed employees so there is migration to the area because of the new jobs created by the mine. Unless adequate advance planning has taken place on the local government or company level, the new population will cause overcrowded schools and demands on public services that cannot be met. Some social instability may be created at the local level.

The impact of surface mining on geological features of human interest could exist in the strip-mine area. Geomorphic and geophysical features and outstanding scenic resources could be sacrificed by indiscriminate mining. Paleontological, cultural, and other historical values might be endangered due to the disruptive activities of blasting, ripping, and excavating. Stripping of overburden will eliminate and destroy all archeological and historic features unless they are removed beforehand.

The extraction of coal by surface mining disrupts virtually all esthetic elements of the landscape for most of the population although in some cases only temporarily. The alteration of landforms imposes conflicting configurations. New linear patterns appear as the material is extracted and waste piles are developed. Different colors and textures are exposed as vegetative cover is removed and overburden dumped to the side. Dust, vibration, and odors are created, affecting sight, sound, and smell.

There are two natural conditions which occur in the United States, alluvial valley floors and steep slopes, which merit special attention because of the significance of the impacts associated with them when they are mined.

Alluvial valley floors are composed of a combination of soils, vegetation, water availability, and topography which are of importance to agriculture. The agricultural utility of alluvial valley floors depends on the availability of water (soil moisture or irrigation water), topography that lends itself to agricultural activities and the presence of a soil capable of supporting some agricultural activity. Surface mining will disturb and temporarily remove the soils, the root zone, and parts of the surface or shallow ground water system. Underground mining, discussed later, has the potential to result in subsidence, dropping of water tables, or interception of surface water drainages - all effects that will disturb the use of the surface. This mining, via subsidence, has actually caused adverse effects on alluvial valley floors, prime farmland and geological features. Surface mining operations will, at least during mining and until reclamation is successful, remove these lands from agricultural use until successful reclamation is realized.

The degree to which the disturbances caused by mining reduce productivity is determined by the degree to which the essential characteristics of the alluvial valley floor can be re-established after mining on or near alluvial valley floors. Mines have been examined in a cursory manner and appear to involve alluvial valley floors but definitive investigations have not been conducted (Hardaway, et al., 1977). The effects have not been adequately assessed to know if environmental impacts to the alluvial valley floor are long-term and adverse. Mining operations in alluvial valleys would remove soils and vegetation and would divert surface waters such that the alluvial valley floor functions could be interrupted.

Some of the important considerations relating to evaluating the effect of mining alluvial valley floors on the potential agricultural activities include:

(1) Soils: The lowland soil complexes in unconsolidated alluvium (i.e., stream-laid) deposits holding streams often have better soil-moisture retention and irrigability characteristics than do upland soils or soils in headwater tributaries. In as much as soils can be removed, stockpiled and replaced to give almost equivalent depth, texture, organic material, and moisture-holding characteristics reclamation is possible.

(2) Surface water: If the water quality and quantity are suitable for the soils and growing season and topography, the lowland floodplain and associated low terraces provide for natural or artificial flood irrigation for agricultural activities on alluvial valley floors. Mining will divert surface waters, at least temporarily, such that the quantity of available waters will change. It is expected that using care and state-of-the-art reclamation procedures such as selective replacement of spoils, compaction of stream channels, re-creating replacement meanders, and special re-creation of channel roughness, the surface hydrologic system can be re-established. If replaced soils are more or less permeable, or if the reestablished vegetation system uses more or less water than before mining, the amount of water in the stream channel and thus the amount of water available for irrigation will be changed. Future measurements could show that stream flows may be re-established in mined and reclaimed areas. But no definitive data are available. In many cases, the percentage of the watershed affected by the mine is small and thus small changes in flow occurring on the mine site should be small and thus difficult to measure. Cumulative impacts are possible if a great deal of mining is conducted in one drainage watershed.

(3) Ground water: Often the lowland areas are subirrigated by recharge from the stream or discharge from aquifers. The subirrigation may provide additional moisture to vegetation making the area more productive than the upland areas just as

does flood irrigation. Mining can remove parts or all of the aquifers or more permeable strata. Whether the permeable strata may be replaced so as to function as it did prior to mining can only be answered for site specific cases. It is reasonable to assume that in some sizable hydrologic systems, porous strata which serve to transmit and store water will be re-established. If the proper overburden material is present, areas of coal aquifers can be recreated by dragline deposition of sandstone-shale overburden. Aquicludes may be more difficult to re-establish, locally requiring perhaps special compaction of strata at depth, or sealing of channels. These appear to be expensive procedures. Operators may choose not to mine such areas.

(4) Topography: The geomorphic character of stream channels, floodplains, and low terraces, that is the relatively level or gently sloping topography, often make the areas easier to farm. Even if the areas are not topographically easier to farm than upland areas, the water availability may make them more desirable. Mining will disturb the topography.

(5) Vegetation: As noted, vegetation in the lowland areas may grow more vigorously, or consist of different and more valuable species (e.g., agricultural vegetation) than does the surrounding upland vegetation. Mining will remove the vegetation. However, seeds, planting practices, mulching, and soil amendments are available to re-established plant communities. In general, plant communities can be re-established to some degree on mined lands. There is more uncertainty on long-term stability of the vegetation. It is probable that revegetation can be assured in reasonable time periods (circa 10 years).

The second condition includes those areas in the eastern region where there are steep slopes. While the impacts from contour mining on steep slopes are of the same type as all mining in the eastern region, the severity of the impacts may increase as the degree of slope increases. This is particularly true because of the increased difficulty of dealing with the problems of erosion and land stability on steeper slopes.

4. Underground Mining

Steps leading to the actual initiation of mining are generally the same for underground mining as for surface mining. Access roads and utility lines are constructed to the mine site. Office buildings, maintenance sheds, a change house with showers and toilets, a power substation, laboratory, parking lot, and a storage building are all generally included at the underground mine site. To gain access to an underground mine, a sloped, horizontal or vertical opening is excavated from the surface to the coal seam. In addition to access openings to the coal, a number of large-diameter shafts may be drilled into the underground workings in order to provide additional emergency access and ventilation. For a more detailed description of underground mining see the final EIS "Proposed Federal Coal Leasing Program" (U.S. Bureau of Land Management, 1975, pages 1-45 to 1-52).

In some areas, underground mining and surface mining occur adjacent to each other. In such situations, special precautions must be taken to ensure that the underground or surface-mine workings are not intersected by drilling or blasting operations.

Underground methods by the room and pillar method generally extract between 35 and 60 percent of the coal. The same amount of coal production from underground mining could affect more area as a whole than the same amount of production from surface mining, which may extract up to 95 percent of the coal. Most of the surface area disturbed from underground mining results from subsidence and construction of surface facilities. As such, actual surface disturbance from surface activities are less than that from surface mining. In addition, impacts are far more significant in the eastern region because that is where most underground mining now occurs--approximately 95 percent in 1975 (Table B5). The adverse surficial environmental effects of underground coal mining are associated with the flow of acid mine water into streams from subsurface coal workings, subsidence of the land surface over abandoned workings, underground coal fires, placement of waste material removed from the workings on the land surface, and the construction and operation of surface facilities. Significant degradation of surface-water quality can result from acid mine water drainage and erosion of spoil piles and waste dumps. Environmental impacts from acid mine water drainage and subsidence are often delayed and tend to be of long duration. Coal processing may also cause degradation of surface-water quality. In addition, similar adverse environmental impacts, as those discussed in Part BII, Section D.3.d, may be created by those surface areas disturbed as a result of construction of surface facilities for underground mining.

5. Special Categories of Mining

a. Mountaintop Removal

Mountaintop removal is a unique method of surface coal mining which was originated and is predominatly used in the eastern region. This method makes possible the total removal of overburden covering a coal seam and thus permits nearly 100 percent coal recovery (with the exception of outcrop barriers). Serving as an alternative to contour mining in hilly and mountainous areas and using the same equipment (shovels, front-end loaders, trucks, and dozers), mountaintop removal is similar to area mining and occurs over large blocks of land rather than as sinuous bands characteristic of contour stripping methods. In this type of mining, the first cut is roughly parallel to the ridge or is incised through a saddle and is executed in a box-cut manner that isolates an undisturbed coal barrier of at least 15 feet at the outslope. The overburden excavated during the first cut is transferred to a storage area, usually a valley or head-of-hollow fill.

After the initial cut into the mountaintop, coal is extracted and mining proceeds in a series of cuts, parallel to the first and adjacent to one another. Dependent upon the proposed post-mining land use the overburden from each cut is placed either in the adjacent excavated cut or in a valley or head-of-hollow fill. When mountaintop removal mine sites are reclaimed to an alternate land use (residential, commercial, agricultural, or public use), only that quantity of overburden necessary to create a flat or gently rolling terrain is retained on the site. The major portion of the overburden is then deposited as excess spoil in valley or head-of-hollow fill. Because most types of overburden rock, particularly competent sandstones, substantially expand in volume after being blasted and moved, a detailed regrading and overburden storage technique is needed to properly dispose of this excess spoil, as well as that displaced from the initial cut. Valley fill or head-of-hollow fill is generally used for this purpose and is discussed in "a. Eastern region" under "3. Surface Mining" in part B, section II.D.

Again loading, hauling, topsoiling, and revegetation operations are similar to other methods used in the region. Figure 24 shows a mountaintop removal operation.

This type of mining removes a mountaintop, creating a flat butte. Adverse environmental effects of this type of mining relate to the method of reclamation. Land stability and resistance to erosion by water of the spoil placed on mountaintops and as head of hollow fill create conditions with the potential for environmental degradation. Impacts of mountaintop mining are similar to those discussed in "Surface mining" in part B, section II.D.

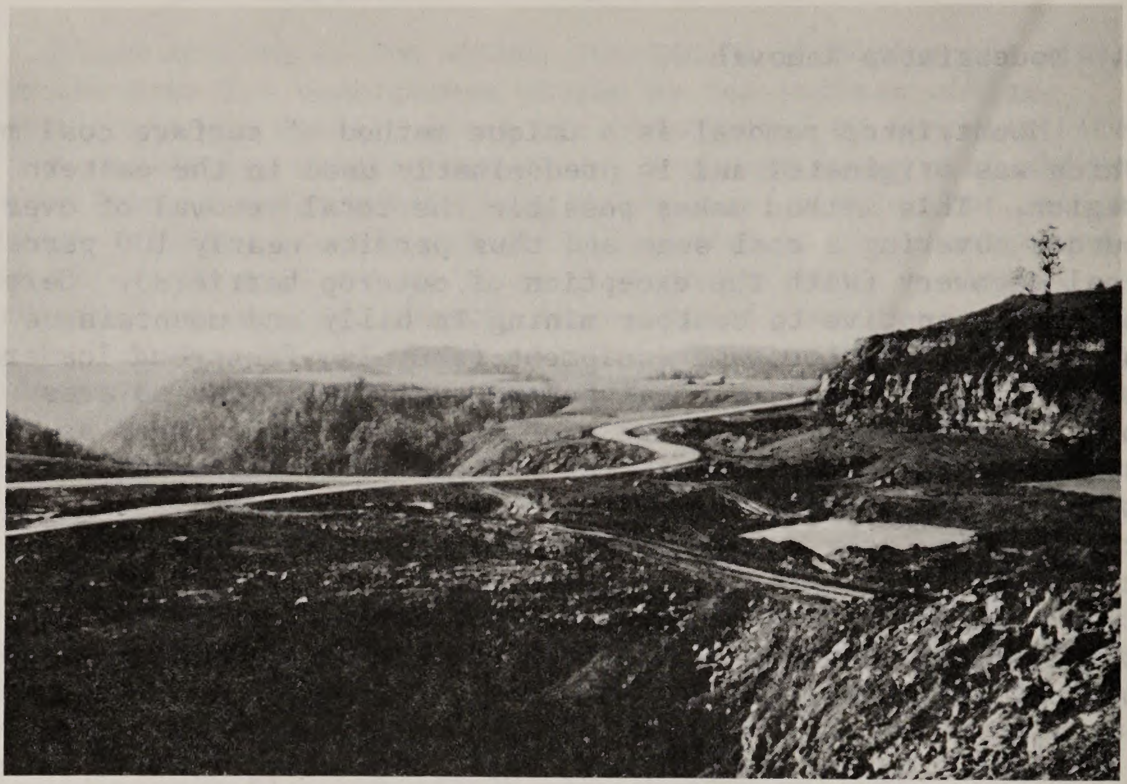


Figure 24.—Mountaintop mining operation in the eastern region. A reclaimed portion can be seen in the background. Photograph from Argonne National Laboratory.

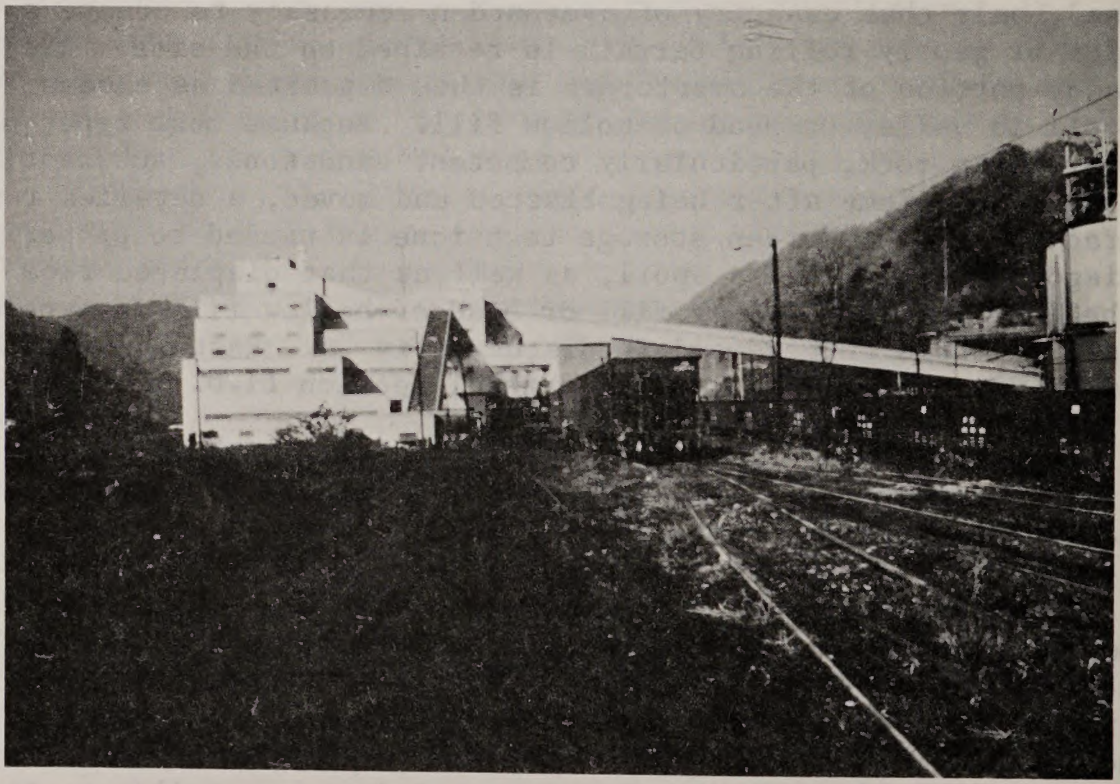


Figure 25.—Typical preparation plant and loading facility. Photograph from Argonne National Laboratory.

b. Anthracite Mining in Pennsylvania

The anthracite fields of Pennsylvania are characterized by multiple seams of hard coal which are generally steeply dipping. Both underground- and surface-mining techniques are employed in these fields. A detailed description of anthracite mining, both underground and surface, can be found in a U.S. Bureau of Mines report (1975b).

Anthracite surface operations vary from shallow excavations along the outcrops to complete removal of synclinal troughs extending hundreds of feet below the surface and covering many acres of land. Unit operations for surface mining of anthracite are the same as in other regions. Clearing and grubbing and preparing the overburden are similar to procedures discussed under surface mining in the eastern region.

Surface mining is confined to two basic methods employed in the four Pennsylvania anthracite fields. The first (a continuation of previous conventional strip-mining methods) uses electric- and diesel-powered walker and crawler draglines. Although both overburden and coal can be removed by dragline, the pitch of the seam usually determines if stripping of overburden is accomplished with a dragline or shovel. Steeply pitching seams (about 45 degrees or greater) usually require use of the dragline due to the depth of cuts. Less steeply pitching seams permit use of shovels as well as draglines.

Stripping operations are usually confined to the edges of coal basins, where outcrops of coal permit recovery after removal of minimum thicknesses of overburden. Stripping then proceeds along the strike of the coal seam to the limits of the permitted area. As greater depths are reached, surface operations may intersect abandoned underground mines, and larger amounts of overburden generally have to be removed. Unless thick deposits of coal are uncovered in a short period of time, coal is stockpiled and haulage (usually by truck) is performed at periodic intervals.

The second basic surface-mining method utilized in the anthracite fields is most accurately referred to as open-pit mining. At one open-pit operation, the seams dip 45 degrees. The major seam in the pit is up to 100 feet thick, which makes removal of up to 800 feet of overburden economically feasible. Stripping ratios of overburden to coal range from 6:1 to 30:1 in the fields. Most coal seams that are surface mined have been previously deep mined and are normally flooded, requiring pumping to eliminate inundation problems.

After overburden has been drilled and blasted, it is loaded into trucks by power shovels, hauled to the end of the pit, and dumped. Areas previously mined are used for dumping or concurrent backfilling. These previously mined areas are also used for disposal of coal refuse material from preparation facilities. Exposed coal is placed on a stockpile by draglines and, if conditions permit, by shovels. Coal trucks are then loaded by front-end loaders or shovels for shipment to the tipple and coal preparation areas.

Revegetation is similar in the anthracite fields of Pennsylvania to that in other areas of the East. The surface activities are generally the same as those discussed for underground mining.

Depending on the geologic conditions, adverse environmental impacts of anthracite mining are similar to eastern surface mining and the western special bituminous mines. Because of existing ground-water quality degradation in the fields of the anthracite mines, additional degradation due to current mines often does not cause significant further deterioration of the ground-water resource. Anthracite has been mined in an area in eastern Pennsylvania where adverse environmental effects had been occurring for over 150 years.

c. Special Bituminous Mines

This special category involves an area in the western region which has unique geological problems. These conditions include more than 15 coalbeds which are steeply dipping. The mining technique used is of the open-pit type in which the overburden and coal are limited in areal extent and mining follows the coal seams progressively deeper into the ground. Using this technique, overburden cannot be completely replaced in previously mined areas and must be placed at a site outside the mine pit. The amount of overburden material may eventually be many millions of cubic yards. Because of the inability to contemporaneously backfill and the volume of material involved, it is questionable as to whether this technique would economically allow for return of the mine site to approximate original contour.

Adverse impacts associated with this type of mine are similar to other surface mining impacts discussed in section 3. In addition, many of these impacts may be long term because of the inability to completely backfill the mined area.

6. Beneficiation

Crushing and cleaning of mine-run coal is commonly referred to as beneficiation or preparation. Often crushing and sizing is all that is required especially in the western region, but many coal seams contain enough impurities to necessitate further cleaning. Impurities in coal that occur in quantity, such as clay, shale and other rock, and pyrite, require removal. Processes vary from simple to complex. The simplest are crushing and screening, which remove large pieces of foreign material. Beyond this, whether the process is wet or dry, it is commonly referred to as washing.

Modern coal preparation with air uses pulsating air to separate the coal from refuse and largely eliminates the need for close screen sizing. This system has an inherent advantage in that it does not contribute to stream pollution. For optimum separation efficiency, an air cleaning plant must operate on dry coal. In many cases a thermal dryer is used prior to preparation. Modern plants may be completely enclosed, confining all dust to the plant. Thermal dryer gases are generally scrubbed before venting to the atmosphere.

Wet washing of coal is accomplished by floating the coal and sinking the impurities in water. The specific gravity of coal, however, is about 1.3 whereas water is 1.0; therefore, washing plants must use dissolved salts or a finely ground solid or upward currents induced into the medium to separate coal from the impurities. Wet washing, as do other processes, starts with breaking and screening the coal to remove hard large pieces of impurities. Then, the requirements for additional cleaning depend upon the amount, size, and type of impurity; how it is dispersed in the coal; and how the coal is to be used. Equipment can include all or any of the following: jigs, screens, launder washers, heavy medium cyclones, tricone separators, concentrating tables, froth flotation cells, filters, and driers.

By the nature of the process, some of the dust is suppressed, but thermal drying of the washed coal can emit particulates which are contained by a filter or precipitator. Water used in the wet process is a potential source of stream pollution but can be controlled by the use of closed circuits to prevent any of the medium from escaping into water courses. Makeup water is required only in quantities sufficient to replace the evaporation losses. Figure 25 shows a typical preparation plant and loading facility.

Whether the process is dry or wet, refuse is produced that requires disposal. Depending upon the amount of impurities in the raw coal, refuse quantities will range from almost 0 to 25 percent of the total raw coal processed. Coarse waste commonly is hauled to a disposal area by truck, and fine waste may be slurried to a settling pond.

Solid refuse is dumped and compacted in layers to eliminate the possibility of spontaneous combustion. After refuse disposal in a particular area is completed, the pile may be treated with limestone to control any acid production which may develop. The area may then be topsoiled and revegetated.

Where settling ponds are used, surface water is removed once the pond is full, and the waste is covered with nontoxic material. The pile is then layered, covered with topsoil and revegetated.

7. Cessation of Mining Operations and Release of Bond

A performance bond is a legal, written obligation to perform a desired act required by law or pay a penalty to the regulatory agency involved. Forfeiture of the bond is usually stated in terms of dollars per acre of disturbed land in the permitted area. Minimum bonding is intended to provide a guarantee that reclamation will be done, either by the operator or a third party. The bond is generally released after mining and reclamation operations for the area bonded have been completed and approved by the regulatory authority.

In meeting the requirements for bond release, the operator is at the same time taking the necessary steps to abandon the mine. For surface mines, the procedure generally involves final backfilling and regrading. It generally includes covering toxic materials or exposed coal seams and elimination of the remaining highwall. In some places water impoundments may be used to cover spoil and coal seams. Topsoil is replaced in reclaiming disturbed areas and revegetation of those areas is completed.

Before bond is released and the mine is abandoned, the final vegetation of all disturbed areas must have matured to a degree that meets the accepted standards. In some States surface water must meet certain standards, usually related to pH, acidity, alkalinity, and iron or sedimentation or both. Erosion protection such as the construction of diversion ditches and vegetation barriers may also be required. A period of time may be required for vegetation to get established before it is evaluated.

In general, underground mining operations do not require performance bonds except on Federal lands. However, certain obligations must usually be met before a mine can be abandoned. These include filling in, closing, or installing barriers at all surface openings. All underground openings, such as shafts are usually permanently sealed.

SECTION III: ANALYSIS OF ANTICIPATED IMPACTS

Introduction

Tables B8 and B9 show estimated acreages that will be mined and disturbed for mining due to planned production from surface mining from 1980 through 1985. The figures do not differentiate between lands that would be regulated under State programs or Federal programs which is the scope of this EIS, and lands that would be regulated under the Federal lands program or the Indian lands program, which are not in the scope of this EIS. See table B3a for surface acreages overlying Federal and Indian coal reserves.

According to table B8, the overall minimum magnitude of national impact of the regulatory program will be to assure that the same minimal standards for protection of the environment are applied to planned surface mining operations on an estimated 431,900 acres of land nationwide. According to table B9, 51 percent of the land disturbed for those operations would be in the East, 39 percent in the Midwest, and 10 percent in the West.

The term "mined" includes the surface area from which coal is actually removed. It does not include the area outside the pit where overburden is placed.

The term "disturbed" includes the area mined as well as the surface areas used for the initial placement of spoil, topsoil storage, coal piles, loading areas, and haul roads (U.S. Council on Environmental Quality and U.S. Environmental Protection Agency, 1977, p. II-16).

As shown in table B3, an estimated 10 million surface acres overlie coal reserves nationwide. Comparing tables B3 and B3a, approximately 8.2 million acres are non-Federal lands.

Coal production estimates are compiled on a tonnage basis. Tonnage figures are not useful in evaluating surface impacts since some coalbeds, especially in the West, are so thick that large tonnages of coal can be mined with comparatively little surface disturbance.

To demonstrate the impact on a surface disturbance basis, OSM relied on three sources: Imhoff and others (1976), U.S. Council on Environmental Quality and U.S. Environmental Protection Agency (1977), and U.S. Bureau of Mines (1971). All three studies are available to the public. Since the first two do not cover all aspects of the regulatory program the estimates based on those studies can indicate only the minimum magnitude of national impact between pre-Act conditions and the regulatory program.

Estimates of surface area disturbance can be made for underground mining operations only on a site-specific basis. Surface disturbance due to underground mining is a result primarily of subsidence and surface support facilities. The probability of occurrence and extent of subsidence is dependent on individual mine conditions.

Surface disturbance for underground mining is generally for the mine portals or access areas; a preparation plant; coal and coal refuse storage facilities; office, laboratory and equipment buildings; supplies and materials storage facilities; ventilation fans, boreholes, and shafts; and parking lot and roads leading to the mine site. The surface areas required for these facilities and operations will be less, on a site by site basis, than for a surface mining operation having comparable tonnage production.

Table B8.—Estimated Acres to be Mined and to be Disturbed for Planned Surface Mining Production, 1980-1985, by State.

(Estimated from data in U.S. Council on Environmental Quality and U.S. Environmental Protection Agency, 1977, and U.S. Bureau of Mines, 1971)

State	Estimated Acres to be Mined	Estimated Acres to be Disturbed
Alabama	23,579	35,840
Arizona	5,102	5,867
Arkansas	1,074	1,288
Colorado	4,220	4,853
Georgia	195	292
Illinois	35,785	42,942
Indiana	23,750	28,500
Iowa	322	387
Kansas	1,785	2,142
E. Kentucky[1]	49,138	81,077
W. Kentucky[1]	24,913	30,892
Maryland	5,120	7,578
Missouri	8,803	10,563
Montana	6,457	7,426
New Mexico	8,034	9,159
North Dakota	4,017	4,620
Ohio	21,943	32,915
Oklahoma	4,617	5,540
Pennsylvania	29,004	43,216
Tennessee	5,137	7,706
Texas	12,866	14,796
Virginia	10,508	17,443
Washington	570	650
West Virginia	17,373	27,449
Wyoming	7,657	8,805
Total	311,969	431,946

[1] Kentucky is divided into East Kentucky and West Kentucky.

Table B9. —Estimated acres to be mined and to be disturbed for planned surface mining production, 1980-1985, by region

(Estimated from data in U.S. Council on Environmental Quality and U.S. Environmental Protection Agency, 1977, and U.S. Bureau of Mines, 1971)

	EAST		MIDWEST			WEST		
	Acres to be Mined	Acres to be Disturbed	State	Acres to be Mined	Acres to be Disturbed	State	Acres to be Mined	Acres to be Disturbed
Alabama	23,579	35,840	Arkansas	1,074	1,288	Arizona	5,102	5,867
Georgia	195	292	Illinois	35,785	42,942	Colorado	4,220	4,853
E. Kentucky	49,138	81,077	Indiana	23,750	28,500	Montana	6,457	7,426
Maryland	5,120	7,578	Iowa	322	387	N. Mexico	8,034	9,159
Pennsylvania	29,004	43,216	Kansas	1,785	2,142	N. Dakota	4,017	4,620
Tennessee	5,137	7,706	W. Kentucky	24,913	30,892	Washington	570	650
Virginia	10,508	17,443	Missouri	8,803	10,563	Wyoming	7,657	8,805
W. Virginia	17,373	27,449	Ohio	21,943	32,915			
			Oklahoma	4,617	5,540			
			Texas	12,866	14,796			
Total	140,054	220,601		135,858	169,965		36,057	41,380
Percent of national total	45%	51%		44%	39%		11%	10%
			311,969 to be mined 431,946 to be disturbed					

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1 The regional boundaries used in this EIS are shown in figure 29.

A. NATURAL ENVIRONMENT

1. Air Quality

a. Impacts of Mining on Air Quality

Ambient fugitive dust levels are increased by the disturbance of lands within a mine permit area during the surface mining operations. Increased levels of fugitive dust are also generated by surface activities associated with underground mining operations such as haul roads, waste and waste impoundments and embankments, preparation plants and storage and maintenance facilities. Dust can be a problem locally in all coal regions, but it is a major environmental problem in the western region because of arid, climatic conditions and persistent, high winds. Some active mines are regularly exceeding EPA's 24-hour and annual average ambient standards for particulates due to dust originating from spoils and active mine areas, especially overburden and coal handling areas and traffic on haul roads (Murray, 1978).

The air quality impact from surface coal mining activities is an increase in total suspended particulates (primarily fugitive dust) from topsoil, overburden handling and stockpiling; construction activities for impoundments, embankments, diversions, and fills; spreading activities required for reclamation; short-term exposed areas; and haul roads (Axetell, 1978). Fugitive dust emissions generally consist of a range of particle sizes some of which settle to the ground quickly, while other fugitive dust particles remain suspended over a long period of time dependent on terrain and weather conditions. These smaller sized particles can be transported up to 20 kilometers from the mining operations (Dvorak and others, 1977).

Uncontrolled fugitive dust exists at all coal mining operations although the nature and extent of the emission source is dependent upon the location and size of the mine, specific mining activity and existing abatement practices. Fugitive dust emission data were gathered at five surface coal mining operations located in several western States (Axetell, 1978). The general results of the study are summarized in table B10. Direct comparison of these emission factors between mine activity is impossible because each activity is calculated in different units of operation and operating conditions at each activity varies. The major sources of fugitive dust can, however, be isolated to include: dragline operations, haul roads, shovel-truck operations, blasting, and truck dumping and others. As illustrated in table B10, prudent judgement must be exercised when establishing emission factors for certain activities such as blasting which may be atypical on a source-by-source analyses. The individual source data was analyzed and an average emission rate of 1.2 pounds per ton of coal mined was established. Employing this conversion factor, western surface coal mines producing .5, 1, 3, and 5 million tons of coal annually could be expected to emit 300, 600, 1,800, and 3,000 tons of fugitive dust per year. Considerable variations from these average rates could be expected for individual mines.

The fugitive dust around and downwind from the emission source could deteriorate the adjacent ambient air quality (Murray, 1978). Another assessment of fugitive dust emissions from selected western surface coal mines (table B11) revealed that the 24-hour ambient air quality standards for total suspended particulates would be exceeded frequently (ERT, 1978). An analysis with no particulate fallout further illustrated that the annual geometric mean for both primary and secondary standards would also be violated for a relatively large area downwind from the mine operation. Certain fugitive dust emissions are respirable and inhalable, the quantity of which is dependent upon the size classification and total amount of dust emitted. Size distribution analysis was performed to allow assessment of health effects. Particulates less than 10 microns in size can be considered to be dangerous to public health (U.S. Public Health Service, 1969; Lippman, 1977; Morrow, 1972). Fifteen percent of the fugitive dust analyzed for one study was less the 10 microns in size (Axetell, 1978). Thus, based on this study, 1 million tons per year could be expected to generate 60 tons/year of dust detrimental to public health. Between 27 and 42 percent would be of inhalable size. If uncontrolled, the resulting ground level ambient air quality would represent a health risk to those living downwind of a minesite.

Less information concerning fugitive dust emission rates is available for eastern or midwestern mining activities. However, since the facilities used and mining operations are similar in type to those of western mines (see Part B, Section II.D.), uncontrolled fugitive dust from these mining activities can be expected to degrade the air quality of the area surrounding any minesite to some degree.

b. Impacts of the Permanent Regulatory Program

The regulations are expected to improve local and regional air quality. The benefits would result from the requirements (discussed below) for fugitive dust plans with suggested measures to be taken to control fugitive dust and for the regulatory authority to request additional control techniques where it is found that fugitive dust control measures in the

Table B10.—Emission factors for individual coal mining operations

(Data from Axetell, 1978)

Operation	Units	Mine				
		A N.W. Colo.	B S.W. Wyom.	C S.E. Mont.	D Cent. N.D.	E N.E. Wyom.
Dragline	lb/yd^3	.0056	.053	.0030[b]	.021	
Haul roads	lb/veh-mi[a]					
w/watering		6.8	13.6	3.3[b]		4.3
no watering			17.0		11.2	
Shovel/Truck loading	lb/ton					
coal		.014	.007	.002[b]		.0035
overburden						.037[b]
Blasting	lb/blast					
coal				25.1	78.1	72.4
overburden		1690[b]		14.2		85.3
Truck dump	lb/ton					
bottom dump		.014	.020	.005	.027	
end dump						.007
overburden						.002[b]
Storage pile	lb/acre-hr	1.6 u, where u is in m/sec				
Drilling	lb/hole					
coal						.22
overburden				1.5		
Fly-ash dump	lb/hr	3.9				
Train loading	lb/ton			.002		
Topsoil removal	lb/yd^3					
scraping					.35	
dumping					.03	
Front-end loader	lb/ton				.12	

[a] Only vehicle miles by haul trucks; travel by other vehicles on haul roads (pickup trucks, ANFO trucks) is incorporated into these values.

[b] These values were all noted to be somewhat atypical and should not be used without first determining the limitations to their applicability described in this report.

Table B11.—Calculated maximum 24-hour particulate concentrations[a]

(g/m^3)

(Data from Environmental Research and Technology, Inc., 1978)

	Particle Deposition Not Included Distance (km)[b]				Particle Deposition Included Distance (km)			
Mine Site	1.0	2.0	3.0	5.0	1.0	2.0	3.0	5.0
A	1,839	497	289	159	885	225	133	82
B	1,065	304	185	112	524	149	97	68
C	332	120	88	67	181	78	63	55
D	1,287	359	215	126	513	171	107	72
E	518	167	112	79	268	96	72	58
F	684	209	135	89	346	112	79	61

a. Including background; that is that portion of the total particulate level attributed to natural sources or other emissions unrelated to the mining activities.

b. Downwind distance is measured from the center of mining operations.

plan are not sufficiently effective. Modelling of ambient air quality conditions in and around the mine operations is, however, not being required by the preferred alternative. Consequently, numerical data analyzing the effectiveness of each control practice will not be developed in advance of mining. These regulations will provide protection to air quality surface mining operations on an estimated 431,900 acres that will be disturbed for planned production from 1980 through 1985 (data estimated from U.S. Council on Environmental Quality and U.S. Environmental Protection Agency, 1977; and U.S. Bureau of Mines, 1971). An estimated 41,380 acres of this total are in the west (Table B9) where impacts have been specifically measured (Table B10). This data reflects the planned production of the 24 coal producing States.

c. Analysis of Major Program Regulations Affecting Air Quality

The preferred alternative differs from the EPA regulations (Part B, Section I.A). It requires the best available control technologies that are available for inclusion in the fugitive dust control plan, requiring monitoring of operations producing 1 million tons of coal per year at operations located west of the 100th meridian west longitude and allows the regulatory authority to require additional measures if acceptable results are not achieved. Monitoring of all other operations will be at the discretion of the regulatory authority.

The preferred alternative requires a fugitive dust plan for all mines. To control degradation of air quality by fugitive dust, the preferred alternative in section 816.95 requires "all mine operators to plan and employ fugitive dust control measures as an integral part of site preparation, coal mining, and reclamation operations." These measures may provide improved control fugitive dust from topsoil and overburden handling and stockpiling; construction of structures and facilities, including processing plants, impoundments, diversions, roads, etc., and use of unsurfaced roads. Where the regulatory authority determines that the application of fugitive dust control measures listed in the plan is insufficient, the regulatory authority may request such additional measures and practices as necessary to assure, that the best available control technology is used to control fugitive dust. Control techniques are available to provide a reduction in dust emissions (U.S. Environmental Protection Agency, 1976d; 1978b).

Suspended dust reduces the transmission of light through the atmosphere, reducing visibility. The reduction of visibility by dust particles represents a significant esthetic impact near unpaved roads and mining areas. Application of control techniques will reduce suspension of fine particles thereby improving the visibility and esthetic values of an area.

The requirements for reclamation and revegetation also help reduce fugitive dust emissions. Since most States in which coal mining is now taking place already have revegetation requirements (Tables B3 and B7), the result of these revegetation standards on air pollution will be negligible on a national basis. However, the increased topsoil and overburden handling and requirements for placement of diversions and other structures may result in temporary increases in fugitive dust emissions which might not be controlled by the control techniques required at a particular mine site.

2. Topography and Geology

a. Impacts of the Permanent Regulatory Program

The proposed regulations are intended to reduce the changes mining causes in topographic and geologic resources, through control of typical impacts of surface coal mining activities. Regulations will control (1) alteration of slope configuration; (2) establishment of impoundments, dams, and other water control structures; (3) construction of roads and other transportation facilities; (4) subsidence over underground mines; (5) removal of mountaintops, primarily in the East; and (6) disposal of excess spoil and coal waste materials.

The program's approach to topographic and geologic resources is to minimize permanent changes in topography and protect geologic formations and the geochemical balance. Mine planning and permit review will allow governmental and public review of likely topographic and geologic changes from the mining activity. New structures will be designed for stability, as well as for harmony with surrounding land forms.

Highwalls (excavated faces or banks)and related placement of spoils on the downslope are topographic features created by surface mining operations. They are most frequently associated with contour mining methods and are most prevalent in the eastern coal mining region. One estimate indicates that there are over 20,000 miles of highwalls in the East, some up to 200 feet high (Spaulding and Ogden, 1968). Depending on the thickness of a coal bed, highwalls may also be left after the final cut in area mining, which is practiced in other parts of the country.

Because highwalls and placement of spoil on the downslope in steep slope areas are products of contour mining, more so than any other type of mining, regulations requiring their elimination have the greatest impact in the eastern region. Only one state in the East, Pennsylvania, requires complete elimination of the highwall. Three of the nine States in the eastern region having surface coal production, do not have laws or regulations which require elimination of the highwall or prohibit placement of spoil on the downslope (Imhoff and others, 1976; U.S. Council on Environmental Quality and U.S. Environmental Protection Agency, 1977, App. A). These three Eastern States have planned production from 1980 through 1985 which will disturb an estimated 165,000 acres of surface land (estimated from data in U. S. Council on Environmental Quality and U.S. Environmental Protection Agency, 1977, and U.S. Bureau of Mines, 1971). An indeterminable amount of mining activities on those lands would involve the creation of highwalls and the placement of the spoil on the downslope. This acreage represents an indication of the magnitude of the added protection offered by the proposed regulations which require the elimination of all highwalls and prohibit placement of spoil on the downslope. (Part 826).

In other regions, five States with planned surface production between 1980 and 1985 of an estimated 40,854 acres do not have regulations requiring elimination of the highwall. If area mining is conducted on those acres, the highwall will be eliminated under the preferred alternative.

The requirements in the proposed regulatory program for backfilling and grading mined land to approximate original contour, including the elimination of highwalls, and the requirements for disposal of spoil, other than placement on the downslope, are the primary contributors to the impacts of the program on topography. The 24 coal producing States have planned production from surface mining that will disturb an estimated 431,900 acres and will mine an estimated 312,000 acres between 1980 through 1985 (estimated from data in U.S. Council on Environmental Quality and U.S. Environmental Protection Agency, 1977, and Bureau of Mines, 1971). None of those States were found to require complete restoration to approximate original contour; although all of the States have some degree of control over backfilling and grading (Imhoff and others, 1976). (See Table B7 for a summary of the State requirements). The overall impact of the program will be the restoration of the 431,900 acres to a more stringently defined approximate original contour, except for certain variances, and to require that all backfilling and grading meet the same minimum national standards regarding stability and erosion control.

The regulations for protecting the hydrologic balance of alluvial valley floors will protect the geologic structure and floodplain and terrace features on an estimated 58,000 acres of alluvial valley floors overlying coal in the West (estimated from U. S. Council on Environmental Quality and U. S. Environmental Protection Agency, 1977, and U. S. Bureau of Mines, 1971).

Several other regulatory requirements also reduce changes to topography and geology caused by mining, although the the magnitude of impact is not quantifiable since they are dependent on site specific conditions. These provide protection to geologic or topographic resources by requiring the maximum coal recovery to minimize repeated disruption of the terrain (Sections 816.59 and 817.59); protecting geologic strata and the quality of water in aquifers (Sections 816.41-816.55and 817.41-817.55; minimizing cave-ins and other surface distortions and material damage to surface features due to subsidence (Sections 817.121-817.126); requiring certain design and construction techniques for fills, other disposal structures, and impoundments to minimize the potential for erosion or slides (816.49, 816.71-816.93, and 817.71-817.93); requiring the establishment of vegetation to help stabilize soils and recharge aquifers (Sections 816.111-816.116 and 817.111-817.116); and requiring restoration of excavations and roads due to coal exploration (Part 815). The regulations for designating lands unsuitable for coal mining may also protect certain important topographic features and geologic formations. The magnitude of this impact will depend on a petition process.

The regulations will result in increasing some short-term changes to topography, including increased disturbance of acreages due to design standards for impoundments and other structures and storage requirements for topsoil (Sections 816.23 and 817.23).

b. Analysis of Major Regulations Affecting Topography and Geology

The following analysis demonstrates how some of the regulations significantly affect mining's effect on topography and geology.

(1) Requirements for spoil and waste placement.

The proposed regulations (Section 816.101 and 817.101) require the restoration of mined areas to the approximate original contour. This requirement will result in operations which eliminate highwalls and fill in pits or voids. Spoil piles will be used for backfill or graded to blend with the surrounding topography.

Layering, compaction and grading requirements for underground waste and coal processing waste (Sections 816.81-816.88, 817.71-817.88) will maximize the stability of waste piles to the effects on the surrounding topography and to reduce the size of the area devoted to disposal sites. Stability of structures is further ensured by the prohibition against the placement of spoil on the downslope in steep slope areas (Part 826). Covering waste, as required by Sections 816.103 and 817.103, will bury any toxic materials to provide suitable conditions for topsoil redistribution and plant growth. The latter will provide protection against erosion, as will the revegetation requirements (Sections 816.111-816.117 and 817.111-817.117).

Backfilling and grading requirements under variances such as for thin or thick overburden (816.104-816.105) and special bituminous mines will continue to permit restorations which are different from approximate original contours. (Mountaintop removal, Part 824, and steepslope, Part 826).

The amount of time topographic disturbance remains during mining should be reduced from present practice under requirements for contemporaneous reclamation (Sections 816.100 and 817.100). Variance from the contemporaneous reclamation requirements would be permitted for certain combined surface and underground mining operations (Part 818). Such variance, however, only allows delay of reclamation efforts; does not allow the area to go unreclaimed.

Postmining land use approved by the regulatory authority may authorize haul roads to remain in place or impoundments to be retained for recreation or wildlife. Currently, lack of postmining controls over such structures in many States leads to adverse impacts on the local topography. (See Table B7 and discussions in Part B, Section III.B.2.). Under OSM's permanent program, improvement or maintenance of stability and erosion control will be considered during the postmining land use planning process.

Construction of fill structures for excess spoil and waste materials changes relief and reduces watershed slopes by complete or partial filling of valleys. The creation of flat or more gently sloping surface on fills, particularly on steep topography in the eastern regions, can allow more diversified post-mining uses such as farming or recreation, than does restoration to approximate original contour.

The design and construction techniques required for fill structures required by the regulations (816.71-816.74 and 817.71-817.74) should decrease erosion and increase stability of fill structures. Those techniques are current state of the art engineering (Superfesky and Williams, 1977; Cook and Kelly, 1976; Chassie and Goughnour, 1976). They will have greatest impact on the geology and topography in the eastern regions where steeper slopes are prevalent.

Materials making up fill structures often have different physical properties than the underlying surface materials. This contributes to slides (mass-wasting) and, thus, affects the water recharge capacity of the area because slide materials block water channels. Fill construction causes increased slides resulting in impacts to the surrounding terrain (Huang, 1977). Controlled placement of fill structures decreases the potential for instability and, consequently, decreases the areal extent of disturbance (Cook and Kelly, 1976; Grim and Hill, 1974; Curtis and Superfesky, 1977).

(2) Subsidence

Subsidence is caused by geological material, between the mine void and the ground surface, moving down to fill the void after underground mining. Where underground mining is near the surface or where such mining involves steeply dipping or thick seams, surface cave-ins can occur. The effects of subsidence on the topography caused by room and pillar mining vary from sink hole type depressions having gentle slopes to vertical-sided depressions (National Coal Board, 1963; Dunrud, 1976).

When planned subsidence mining methods are used, the overlying geologic material is lowered into the mined-out area. With longwall or short-wall mining methods, the vertical lowering of the surface tends to be uniform over the mined area; with the pillar extraction method, the lowering tends to be less uniform and results in a more undulating surface and in some subsidence events occuring years later, as can be summarized from the study for the U.S. Bureau of Mines (1977c).

In areas of rough topography, subsidence can trigger mud slides or rock falls (Dunrud, 1978). Subsidence can also lead to permanent loss of coal resources (Thompson and York, 1975; U. S. Bureau of Mine, 1976).

The subsidence control provision of the proposed regulations is intended to reduce the surface effects of subsidence. The regulations (817.121, 817.122, 817.24, 817.126) require that under ground mining activities be conducted to prevent subsidence from causing material damage to the surface, to the extent technologically and economically feasible, and so as to maintain the value and foreseeable use of the lands. The effect on topography and geology would be to reduce cave-ins, sinkholes, depressions and slides to the extent possible.

Ideally, backfilling can be used to limit or minimize the damaging effects of subsidence; in practice it cannot be expected to completely prevent subsidence (Appalachian Regional Commission, 1974). Backfilling of mine cavities in the mining process has been used in foreign countries; it has been used only minimally in coal mines in the United States (Cochran, 1971) Research efforts to develop technical and economical methods of installing backfill in active coal mines is underway (U.S. Bureau of Mines, 1977s). With breakthroughs in these areas, coupled with OSM's requirement that feasible technology be used to prevent material damage from subsidence, backfilling could become more widely used in this country as a means of achieving compliance with the regulations.

(3) Impoundments

Under the regulations, impoundments must be reclaimed, unless approved for retention by the regulatory authority. (Sections 816.49 and 817.49). Those approved for retention must be constructed to specified engineering standards and shaped to be consistent with the approved land use plan.

Permanent and temporary impoundments, including dams, will be constructed using current state-of-the-art technology under the regulations. This should reduce the potential for impoundment failures and consequent damage downstream or downslope caused by mass-movement of waters, soil, rock, and other materials used in impoundment dam construction or by earth slides caused by saturation of unstable soils.

(4) Slides and Other Damage

The regulations will require in most cases an undisturbed natural barrier on the outslope side of the lowest coal seam to provide soil stability, (Sections 816.99 and 817.99). This barrier will protect downslope, offsite areas from slides and erosion from spoils piles, highwalls, and backfilled areas. Such protection will result in protecting offsite topographic and geologic characteristics of the area. Protective barriers required by the regulations will be of most benefit in area of steep topography characterized by unstable soil or geologic conditions.

(5) Auger Holes

The requirements for sealing auger holes will have its greatest effect upon the outslope side of the lowest coal seam regions. By excluding excess water and oxygen from acid- or toxic-forming materials in coal-bearing geologic units, their tendencies to form contaminants will be reduced. This will protect the natural geochemical environment locally and reduce the amount of contaminant in the surface-and ground-water system in the entire area. The impact will be mainly in the East because of the concentration of auger mining in that region. In 1976 there were over 1,100 operations which included augering and 99 percent of these were in the East (U.S. Department of Energy, 1978s).

3. Soils and Vegetation

The effects on soils and vegetative resources are discussed together in this section because of the interdependence of the two. Vegetative success depends in large measure on soil quality, and appropriate vegetative cover protects soil from erosion.

a. Impact of the Permanent Regulatory Program

Surface coal mining activities in the past have resulted in degradation of the productive capacity of affected soils by (1) burial of topsoil beneath spoil, (2) deposition of toxic materials at or near the soil surface, (3) contamination of soil by acid and toxic mine drainage, (4) accelerated soil erosion, and (5) increased incidence of landslides on unreclaimed lands (U.S. Soil Conservation Service, 1978c).

The major vegetative types affected by mining operations are: (1) natural grasslands and pastures, (2) trees and shrubs, and (3) cropland (U.S. Department of Agriculture, 1978c).

During 1977 there were 47,716 acres mined or disturbed by coal mining: 27,567 acres in the eastern region, 16,965 acres in the midwestern region, 3,141 acres in the western region, and 43 acres in Alaska (U.S. Office of Management and Budget and others, 1977).

As a result of past coal mining practices, there are 1.1 million acres of land needing reclamation (U.S. Department of Agriculture, 1978b). This has resulted in an estimated reduction of 264,000 acres of cropland, 135,000 acres of pasture, and 127,800 acres of forest land (U.S. Department of Agriculture, 1978c). Reduction in soil productive capacity is primarily responsible for changes in land use following mining. Increased soil acidity, greater stone content, reduction of available waterholding capacity, reduction in content of soil organic matter, and increase in soil slope have in the past been primary factors related to retirement of mined land from productive use. However, due to State regulations (Table B7) the occurrence of these adverse soil conditions has diminished.

The preferred alternative will require restoration of lands to premining productive capacity and special handling standards for topsoil. By protecting topsoil, postmining vegetation will be enhanced. These, coupled with specific revegetation standards, will mitigate the adverse effects of poor quality vegetation in the mining area following completion of mining that have occurred in the past. In the short term, there will be adverse effects on soils resulting from requirements, such as those for roads and stockpiling, which will increase the area required to be disturbed.

Other impacts on these resources derive from requirements for stability of fills, slopes and embankments affording protection to off-site resources, and provisions which will prohibit mining in areas where soil capacity would be irretrievably lost or valuable vegetation destroyed without the likelihood it could be reestablished.

Soils will be protected by decreases in erosion rates and special handling requirements for topsoil. This, together with required planning, will enable the selected postmining vegetative species to root in a medium more conducive for achieving success than has been the case under much past mining practices. Quick establishment of vegetative cover will, in turn, protect the soil from depletion through erosion. Active and abandoned surface coal mines are estimated to generate 17,850 tons of sediment per year (U.S. Environmental Protection Agency, 1973b).

The general magnitude of the minimum national impact of the regulation on soils and revegetation of the disturbed area can be seen by examining existing State laws and regulations. Seven of the twenty-four States with surface coal production (excluding Alaska) did not have laws or regulations which require conservation and replacement of topsoil. All of the States with planned production have promulgated some revegetation requirements (Imhoff and others, 1976) although the requirements vary and are often less extensive than those in OSM's permanent program (see Table B7). These States have estimated planned surface coal mining operations from 1980 through 1985 which will disturb an estimated 431,900 acres of surface land (estimated from data provided in U.S. Council on Environmental Quality and U.S. Environmental Protection Agency, 1977, and U.S. Bureau of Mines, 1971) of which 188,000 acres will be in States that currently lack topsoil handling regulations. This acreage represents an indication of the magnitude of the added protection for soils and vegetation for the areas offered by the regulations which require conservation and replacement of the topsoil and successful revegetation of the disturbed area. The specific impact of the regulations would be dependent on the degree to which the regulations provide more stringent requirements for topsoil handling and revegetation than the States now have for protecting the 431,900 acres that would be disturbed for planned surface mining operations from 1980 through 1985.

b. Analysis of Major Regulations Affecting Soils and Revegetation

Topsoil Handling

The regulations require removal, segregation, storage, and redistribution of topsoil (Sections 816.22-15, 817.22-15, and Part 823). Soil reconstruction is essential in restoring the affected land to a condition that will support vegetation and uses that it was capable of supporting prior to any mining.

Many writers—including Sandoval and others (1973), Aldon (1978), Grandt (1978), Power and others (1978), and Argonne National Laboratory (1978)—have found that topsoil replacement on disturbed sites will greatly improve vegetative survival and growth. Topsoil, when removal and replacement are concurrent, can provide a seed source and live plant roots that promote quick establishment of vegetative cover. Topsoil supporting a vigorous vegetative cover such as grasses with a large root mass, reduces erosion (Plass, 1978).

The regulations permit the regulatory authority to require removal of the A and B horizons and other underlying layers separately and replacement in sequence where necessary to achieve productivity consistent with postmining land use (Sections 816.22(d) and 817.22(d)). Topsoil, as defined in Section 701.5 of the regulations, means the soil A horizon. Except for soils having extremely thick A horizons, the productive capacity, hence the success of revegetation, is as dependent on the quality and thickness of the subsoil as it is on the quality and thickness of the topsoil (Power and others, 1978). In most places restoration of a subsoil to the quality for plant growth equal to that on the premined soil is essential if crop and forage yields of reconstructed soils are to achieve 90 percent or more of the productivity standards under equal management, as required by the revegetation regulations discussed below.

Identification of soil horizons and overburden layers and evaluation of them according to certain chemical, physical, and biological properties before topsoil removal is important if substitution of overburden material for topsoil is contemplated (Plass, 1978). The requirements for procedures in Sections 816.22(e) and 817.22(e) will ensure that the highest quality of available material is replaced as a plant growth media. Quality control is provided in these Sections through optional tests and field trials to demonstrate the feasibility of using overburden material as topsoil. Results and recommendations must be performed by a laboratory approved by the regulatory authority. Some restored areas will have higher productive capacity where high quality overburden is substituted for topsoil. The requirements of Sections 816.116, 816.117, 817.116 and 817.117, discussed below under revegetation, will encourage the operator to use the best plant growth media available.

In mining operations it is possible to reconstruct a soil that will have a sequence of layers chosen from the best available soil and geologic strata at the site resulting in the most favorable properties that can be created from available materials (McCormack, 1976). Such a soil will have the broadest use potential and the highest productive capacity and be the easiest to vegetate quickly and effectively to reduce erosion. Bennett (1978) has identified many problems resulting from indiscriminate placement of spoil and concludes that coal can be removed and soils reconstructed without destroying potential soil productivity and seriously damaging the environment. Plass (1978) states that overburden analysis, systematic placement of spoil material, and careful regrading can minimize environmental damage and expand revegetation options. He further states that conscientious application of a practical revegetation plan can assure satisfactory vegetative cover on new and old surface-mining disturbances.

Some erosion by wind and water is inevitable on exposed topsoil and topsoil stockpiles. Although soil properties vary widely within a coal region (Wali and Sandoval, 1975), techniques have been developed to alter surface microrelief (Hodder, 1975) that when used in conjunction with mulch and other practices will effectively reduce erosion and conserve soil moisture. These same techniques and mulch materials are thought to have application in the control of erosion on topsoil stockpiles.

Under the regulations, topsoil will be stockpiled only to the extent that it is impractical to redistribute it promptly and according to limits authorized in the permits (Sections 816.23 and 817.23). When immediate replacement is not feasible or practical, the topsoil will be stored for subsequent uses to cover spoil and in preparation for revegetation of the area disturbed by surface-mining operations.

Topsoil storage requires a stable site and protection of the stockpiled material from wind and water erosion and from contaminants which lessen its capacity to support vegetation. Once in place, stockpiles are not to be moved until required for distribution on a disturbed site. This prevents excess manipulation of stockpiles that can cause erosion and increase the sedimentation rate. Stockpiles will necessitate disturbing additional area. This area may be occupied for a long period for storage of topsoil that is removed from the area occupied by surface facilities of an underground mine.

Due to a lack of adequate aeration, moisture, and replenishment of organic substance necessary to sustain microbial activity, biological activity may be reduced to some degree in stockpiles. Although there is currently little evidence that redistributed topsoil which has been stored for short periods will have an adverse effect on revegetation, soils stored in conjunction with underground mining operations may be degraded; thus, postmining vegetation could be more difficult to establish. This is because storage during underground operations is generally for the life of the mine since topsoil is removed primarily for mine support facilities and coal waste stockpiles. Fertility levels can be restored by plant cover and by adding nutrients and amendments to the new surface where necessary to meet the revegetation requirements of Sections 817.111-817.117.

Requirements for redistribution of topsoil include grading and scarifying the surface before or after replacement to eliminate slippage planes and promote root penetration (Sections 816.24(a) and 817.24(a)). Power, and others (1978) states that ripping or other surface disturbances before seeding sometimes proves beneficial. The regulations (Sections 816.24(a) and 816.24(b), 816.114 and 817.114) require redistribution of topsoil in a manner that achieves an approximate uniform thickness, prevents excessive compaction, and protects the surface from wind and water erosion before seeding and planting. Some compaction of layers is likely to occur during redistribution of topsoil that will reduce permeability and restrict root development (Power and others, 1978). Wet soils with a high clay content will normally be more adversely affected than drier soils with a lower clay and higher sand content. If compaction occurs in the subsoil of reconstructed material, it could take up to 20 years or more for a site to reach its original productive capacity for trees and other deep rooted species (Lull, 1959). Excessive compaction is potentially the most serious obstacle to successful soil reconstruction when wheeled or tracked earth moving equipment is used. Moisture content of soil material being moved as well as moisture content of the material the soil is being placed upon are extremely critical. Replacement of soil layers only when soils are dry or well below optimum moisture levels for compaction will produce the most favorable soil conditions (Power and others, 1978).

Hydrologic Balance, Erosion Control and Toxics

The soil-water-vegetation relationship is an intricate one. Regulation requirements for maintaining or controlling the hydrologic regime (Sections 816.41-816.57 and 817.41-817.57) and minimizing erosion from overland and channelized flow from diversions, from fills and other structures, and from rills and gullies which appear after regrading (Sections 816.106 and 817.106) would all protect soils and vegetation. Requirements for handling toxic and acid-forming materials will also reduce contamination of the root zone of the soil medium. Measures taken to maintain or increase infiltration rates enhance permeability and also reduce erosion, thus increasing soil moisture available for local plant growth. This results in reestablishing a vegetative cover more quickly. This cover, in turn, will hold soil in place and mitigate the adverse impacts of sedimentation in hydrologic systems.

In the West, some alluvial valleys that cannot be reclaimed following mining activities will be protected when mining is prohibited, and those that are mined will be restored to their remaining productivity levels.

Revegetation Standards

The performance standards require the operator to reestablish a permanent vegetative cover on disturbed areas. Revegetation requirements include establishment of species native to the area or introduced species that will result in biomass production appropriate for the approved postmining land uses. The revegetation requirements will reduce the reliance on natural succession to provide permanent cover that will stabilize the area. In the West, grazing lands will be restored; in the Midwest, large areas of cropland will be restored; and in the East, forests will be restored.

The regulations (Sections 816.113 and 817.113) require prompt establishment of a vegetative cover after topsoil replacement. Establishment of a vegetative cover is essential for minimizing erosion, enhancing soil productivity, and restoring the land to a beneficial use.

Mulches can aid the establishment of vegetation, reduce erosion, and add organic matter (Plass, 1978,and Aldon, 1978). In many cases, the required mulching (Sections 816.114 and 817.114) will add protection for the soil and improve plant seedling survival by reducing the formation of rills and gullies and by providing protection from surface runoff until an adequate vegetative cover is established. Mulches also provide protection from wind erosion and conserve moisture that may be critical for establishment of vegetation. Anchoring mulches where necessary, as required by the regulations, will prevent them from drifting during high winds or heavy rainfall. The regulations allow substitutes for mulching where substitutes are effective.

Standards for measuring ground cover and productivity (Sections 816.116 and 817.116) can help ensure restoration of the soil's productive capacity and provide erosion control. The measure of success of revegetation allows for a 10 percent reduction in yields of crops and forage below optimum levels established by the regulatory authority or achieved on reference areas. Stocking rates for forest land (Sections 816.117 and 817.117) will ensure establishment of live trees sufficient in number to fully use the suitable and available growing space. Lack of yield standards for forest land may permit a level of soil reconstruction inadequate to achieve yields equal to the premining soil capability.

Prime Farmland

Special performance standards apply to lands determined to be prime farmland and having a historical use for intensive agricultural purposes (Part 823). According to the U.S. Soil Conservation Service (1978a), "Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops, and is also available for these uses. It has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods."

The prime farmlands underlain by coal occur predominantly in Illinois, Indiana, Iowa, Missouri, western Kentucky, North Dakota, and irrigated alluvial valley floors in the western States. In Appalachia, a small but agriculturally important acreage of prime farmlands is located in valley bottoms and on gentle slopes. According to Table B7, as of 1976, none of the States had special requirements for prime farmlands.

Twenty-six percent of the Nation's total strippable coal reserves underlie prime farmland in States east of the Mississippi River. Substantial additional acres overlie coal which may be removed by underground mining. An estimated 28.1 million acres of prime farmland are in coal counties of major coalfields east of the Mississippi River and represent 7.3 percent of total prime farmland in the Nation (U.S. Office of Management and Budget and others, 1977). Coal mining operations in 1977 disturbed an estimated 21,800 acres of prime farmland (U.S. Office of Management and Budget and others, 1977, p. 17). As coal mining is increased to meet energy needs, a greater portion of the 28.1 million acres in the major coalfields may be mined. Planned surface mining production in the States having most prime farmland will disturb 117,904 acres (Table B9) of which an indeterminable amount will be prime farmland.

Letting substantial blocks of prime farmland go to other uses after mining would mean that eventually other lower quality lands must be pressed into farming uses. The result would be declining yields, higher costs, greater environmental hazards, and the loss of those acres from use for which they might have been better suited or for which they might have better met society's needs (Schmude, 1977).

The regulatory requirement (Section 823.14) for replacement of A and B horizons in their original sequence offers the highest potential for creation of a final root zone of comparable depth and quality to that which existed in the natural soil. Limited research is available on the success of soil reconstruction achieved by sequential removal and replacement of the natural soil horizons. Power and others (1978), however, have shown that reconstruction of the soil material by replacing topsoil and subsoil in separate layers was superior to mixing the two materials; wheat yields comparable to those on unmined land during the first growing season were achieved. Bennett (1978) concluded that, through adequate guidelines and specific controls, coal can be removed without destroying the potential productivity of the soil and seriously damaging the environment.

Topsoil (A horizon) replacement can vastly improve plant survival and growth (Sandoval and others, 1973; Aldon, 1978; Grandt, 1978; Argonne National Laboratory, 1978). Olson (1977) found the most rapid means of restoring soil productivity was to replace all or part of the topsoil and concluded that soil productivity is not likely to decline if such procedures are followed. Studies by Henao (1976) showed that thickness and organic carbon content of the A horizon are highly significant in predictions of corn yields in relation to weather, management, and soil variables.

The regulations require that the A and B horizon be replaced without excessive compaction. Compaction resulting from grading spoil and topsoil handling can be detrimental by reducing pore space and thereby inhibiting air and water movement in the soil (Chapman, 1967, p. 33). Use of suitable equipment and careful handling of soil material at proper moisture content is essential if excess compaction of the soil is to be avoided. Compaction to higher levels of density or reduction of permeability in any layer of the root zone, as compared to the original soil, will result in a high probability that crop yields will be reduced (Chapman, 1967, p. 20).

The regulations require restoration of moist bulk density to less than 0.1 gram per cubic centimeter more than the moist bulk density of the equivalent horizon of the undisturbed soil. In the past, a high degree of compaction in many soils has resulted from soil replacement without compaction standards (Power and others, 1978).

Prime farmland soils are defined as those having the best combination of physical and chemical properties for plant growth. However, there will be some circumstances where substitution of selected overburden materials for the A and B horizons will result in a soil of higher productivity capacity. Where substitute materials are shown to be equal or more favorable for plant growth than the A and B horizons, their use is permitted by the regulations and may result in less costly soil reconstruction and possibly a more productive soil.

The revegetation standards which apply to prime farmlands require the operator measure the quality of the reconstructed soil by growing crops and measuring production. By comparing the measured crop production from the reconstructed soils to the yield standards established for that crop on the prime farmland soils found in the permit area, an index of soil productivity is obtained. Bond release will occur when the operator has demonstrated that the productive capacity has indeed returned to premining levels, namely, average crop production on the reconstructed soils is equal to, or higher than, that prior to mining.

Wetland Protection

Several regulatory requirements will be important to the protection of wetland vegetation communities. These include primarily the regulations for protecting water quality and quantity (Sections 816.41-58 and 817.41-58), for preserving the hydrologic characteristics of alluvial valley floors (Part 822), and for consulting with Federal and State fish and game authorities (Section 780.15). The protection is provided through the maintenance of supplies of water upon which wetland species are dependent and through the consideration of wetland habitat conditions identified during the consultation process before a decision to mine is made. In addition, the applicant for a permit must demonstrate, prior to mining, that revegetation can be achieved to meet premining land use conditions or a higher or better use. If premining conditions are the intended goal of postmining land use, then wetland communities must be re-established or mining cannot be approved. If postmining plans entail a change in land use, then wetland communities may be lost. As discussed in Part B, Section III.B.2, it is not expected that changes in land use will often occur. Therefore, it is not expected that a major loss of wetland communities will result from the regulation allowing for postmining land use changes.

The regulations which provide for designation of lands unsuitable for mining (Subchapter F) preclude the loss of vegetation due to coal mining activities. Endangered plant species, significant forest areas, unique plant communities, important wildlife habitats or areas of high esthetic value may be designated unsuitable for mining at the discretion of the regulatory authority upon petition. Areas in which postmining reclamation cannot be achieved must be designated unsuitable upon petition. As a result, these vegetative resources will be protected for the benefit of the general public welfare.

Resources Description and Planning

Soil and vegetative resources descriptions and planning required by the regulations relating to permit applications (Sections 779.19, 779.21, 779.22, 780.17, 783.19, 783.21, 783.22, 784.12 and 785.17) can be used by the operator and the regulatory authority to compare the productivity capability of the postmining restored soil with the premining natural soil in a particular area. Restoration of that capability, as required by the Act, utilizes the information produced by these descriptions and postmining land use plans developed under Sections 780.15 and 780.23. Factors such as slope gradient, slope length, total rainfall, rainfall intensity, soil texture, particle density, and many others must be considered to assure that planned land use is appropriate for soil conditions (U.S. Department of Agriculture, 1978(a)).

4. Water

a. Impacts of Past Mining on Water Resources

The impacts of improperly controlled mining and inadequate reclamation practices on water resources have been extensively documented and relate directly or indirectly to a majority of the permanent program regulations. The purpose of this section is to review the impacts as described in the extensive documentation so as to provide a more thorough background of the effects of mining as related to water than is provided in Section B-II.

The degree of both State and Federal regulation of water has changed rapidly over the past few years. Many of the studies cited in this section reflect such changes; others may predate more recent regulatory modifications. The studies cited are indicative of mining under varying levels of control, for the most part, and how mining activities affect water. The varying levels of control extant before enactment of SMCRA are shown generally in Table B-7 and discussed further in Part B, Section III.4.b below. Data on the effectiveness of the existing State control is not available. Some of the studies cited cover areas that have both active and abandoned mined lands. The Office believes that studies including analysis of impacts on water resources from abandoned mined lands is appropriate as a further indication of the effects of mining which fails to utilize currently acceptable reclamation practices.

Coal mining operations can have significant impacts on the hydrologic regime of the mined area and surrounding areas. Mining can interfere with the equilibrium established between the ground and surface water flow regimes and between the recharge and discharge of water to and from the surface and ground systems. Some of the measurable components of this interaction are flow patterns of ground water within aquifers; the quantity of surface water as measured by the rate and duration of flows of streams; the erosion, transport, and deposition of sediment by surface runoff in streamflow; the quality of both ground and surface water, including both suspended and dissolved materials;

and the interrelationship between ground and surface waters. The relationship among these components is complex and depends upon a number of physical, chemical, and biological factors, which, in turn, are dependent upon meterological, geological and geographical conditions. The impacts of mining on any one of these factors trigger changes throughout the hydrologic system. H. Rept. 95-218, 95th Cong., 1st sess., p. 109-110 (1977).

(1) Water Quality

The Chief of the U.S. Army Corps of Engineers (H. Rept. 95-218, 95th Congress, 1st and 2nd Session, p. 59, 1977), in testimony before Congress stated:

> "The most widespread damages resulting from the effect of mining upon the water resources are environmental in nature. Water users and developers incur significant economic and financial losses as well.
>
> Reduced recreational values, fish kills, reductions in normal water dissemination capacity, impaired water supplies, metal and masonry corrosion and deterioration, increased flood frequencies and flood damages, reductions in design water storage capacities at impoundments, and higher operating costs for commercial waterway users are some of the most obvious economic effects that stem from mining-related pollution and sedimentation."

It is important to differentiate between "non-point" surface runoff and "point source" discharges from mining. Since 1972, pollutants entering surface waters from point source active mine operations are supposed to be regulated by the National Pollution Discharge Elimination System permit system administered by EPA and the States under the Clean Water Act. (See Part B, Section I.) Many of the studies prior to 1972 may overstate the magnitude of conditions resulting from point sources as defined by EPA because they do not differentiate between point and nonpoint source runoff.

Surface water is contaminated when sediment and chemical pollutants are discharged from coal mining areas. Streams may be left unsuitable for domestic and industrial water supplies or for agricultural uses such as irrigation. Toxic waters draining from mine-sites can have a detrimental effect on fish and other aquatic life, crops, trees, and wells and lakes.

In general, mining activities tend to increase erosion. Rill and gully erosion is a major example. A 1967 estimate indicated that approximately 40 percent of all surface-mined land had eroded enough to form rills and some gullies. On 400,000 acres, gullies more than one foot deep have been formed.

These gullies are frequently associated with long slopes (U.S. Department of Agriculture, 1973).

A study by Collier and others (1964) showed the average annual sediment production from a surface mined watershed was 42 tons/ acre, more than 1,000 times higher than an unmined watershed. Curtis (1974) studied three watersheds in Kentucky and found the sediment yield to range between 0.84 and 1.27 area-inches of area disturbed. He could find little correlation between sediment yield and the amount of land disturbed and concluded that methods of mining and handling the overburden are major factors controlling sediment yield. He also noted that the highest sediment yields were measured during the first six-month period after mining.

Erosion resulting from area stripping may be comparable to that associated with contour mining. In both types of mining a large percentage of the sediment may be retained in depressions on the sites during periods of low rainfall and then discharged with storm-water runoff (Haynes and Klimstra, 1975). A study conducted in eastern Kentucky (Plass, 1966) indicated that a partially-stripped watershed had an average erosion rate of 5.9 tons per acre annually. In comparison, the unmined watershed had an average erosion rate of 0.7 tons per acre per year. Ninety-seven percent of the erosion in the partially stripped watershed was attributed to the stripmined area, even though it amounted to only 6.4 percent of the total watershed area.

The four most widely-occurring coal mining pollutants sediment, increased acidity, iron, and manganese are discussed below. Others such as aluminum, nickel, zinc, sulfates, fluoride and strontium may also be present in mine drainage (U.S. Environmental Protection Agency, 1976a).

(a) Sediment.--Mined area sediment yields persist for long periods after cessation of operations if reclamation is inadequate. Erosion and resulting sedimentation contribute to the exposure of toxic forming material onsite and thus to water pollution from the leaching of toxic chemicals. Mining can increase the mineralization of water, depending upon the chemistry of the strata disturbed, the amount of water, and the duration of contact with the disturbed materials. (H. Rept. 95-218, 95th Cong., 1st sess. at 111, 1977).

Erosion rates depend on the type of mining, topography, rainfall, the type and amounts of vegetation that grow on abandoned mine land, and the exposure of the spoil (Grim and Hill, 1974) (U.S. Environmental Protection Agency, 1976a).

A recent study by the U.S. Geological Survey documented sedimentation rates on 14 watersheds in the Fishtrap and Dewey Lakes drainage basins of Kentucky that were on the order of 3,000 to 21,000 tons per square mile annually from watersheds with contour surface mining (Curtis and others, 1978). Plass (1966) and Collier and others (1964) found the erosion rate eight times higher on mined watersheds as compared with unmined watersheds in Kentucky.

Department of the Interior (1967) studies indicated that sediment from mined areas has been a problem primarily associated with inadequate vegetation. This study also stated that of 14,000 miles of stream channel affected by surface mining, 7,000 miles of channel had its water-carrying capacity significantly reduced, increasing the potential for flooding. In addition, the water carrying capacity was moderately reduced along 4,500 miles. However, excess sediment from mine activity was not found in small streams that were more than 2 miles from the mined area.

Sediment discharged from mined areas into the stream system has resulted in a shortening of the useful life of some major public works facilities--flood control reservoirs and navigation channels--as well as clogging streams and increasing flood flows. (H. R. Rep. No. 95-218, 95th Cong., 1st Sess. at 112, 1977). Sediment can be transported long distances by high flows, fill lakes and ponds, degrade water for consumptive uses, increase water treatment costs, damage water distribution systems, and act as carriers of other pollutants, bacteria and viruses (U.S. Environmental Protection Agency, 1976b; Grim and Hill, 1974). Sediment will cover stream bottoms, burying macroinvertebrate organisms, impair the feeding and breeding of certain species of fish, and can adversely affect gill structures of fish (Carins, 1968; Wilber, 1969; Hynes, 1970; Hill and Bates, 1978; California Water Quality Control Board, 1963; Tebo, 1955).

(b) Increased acidity.—Acid drainage from coal mining has contaminated an estimated 11,000 miles of streams in this country. (H. R. Rep. No. 95-218, 95th Cong., 1st Sess. at 58, 1977). Most of the acid drainage has been caused by oxidation of pyrite associated with coal seams, whether exposed by surface or underground mining (Kosowski, 1973; Emrich and Merritt, 1969; Caruccio and Parizek, 1968).

About 97 percent of the acid pollution in streams and 63 percent in impoundments has resulted from coal mining operations. In 1962 it was estimated that 3,200,000 tons of acid were discharged annually into streams from active and abandoned underground and surface mines in Appalachia. A residual acid load in excess of 300,000 tons a year is not neutralized until it reaches the larger streams of that region (U.S. Soil Conservation Service, 1978c).

Spaulding and Ogden (1968) found that 15,000 acres of contaminated water impoundments associated with mining operations in 20 States could provide suitable fish and wildlife habitat, if the sources of acid pollution of these impoundments were sufficiently reduced. During mining and in situations where underground mines have been breached, resulting acid drainage has had severe effects on aquatic life. Acidic drainage from underground mines can have severe effects on aquatic life, causing osmotic imbalances and physiological harm to fish and affecting aquatic plants, algae, and bottom-dwelling food organisms of other aquatic life (U.S. Environmental Protection Agency, 1977a; Bell 1971; Harricks and Karyns, 1972; U.S. Fish and Wildlife Service, 1977; Karyns, J. and others, 1971; Lackey, 1939; Sheaffer and Little, 1969).

(c) Iron.—Iron hydroxide (or "yellow boy") forms by hydrolysis, and coats stream bottoms (U.S. Environmental Protection Agency, 1973a; Grim and Hill 1974). Spaulding and Ogden (1968) found that 31 percent of the streams in mining areas had precipitates on the stream bottoms and 37 percent of the streams had iron-discolored water. When iron hydroxide precipitates to the stream bottom, it can coat macroinvertebrates and other benthic food organisms. Iron discharged from surface and underground mining operations is detrimental to some fish, adversely affecting their gills (Smith, 1972; Sykora and others, 1972; Koryak and others, 1972; Sykora and others, no date; U. S. Environmental Protection Agency, 1977g). Iron also adversely affects public water supplies by staining materials that come into contact with the water (U.S. Public Health Service, 1962).

(d) Manganese.—Manganese is soluble in acid mine drainage and has adverse effects on some aquatic life (U. S. Environmental Protection Agency, 1974; Grim and Hill 1974; U.S. Environmental Protection Agency, 1977g). Its occurrence is similar to iron hydroxide. Manganese also adversely affects the public use of water for drinking and other consumption by staining materials that come into contact with it and corroding pipes (U.S. Public Health Service, 1962; U.S. Environmental Protection Agency, 1977g).

(2) Hydrology

(a) Surface Water— Surface mining can have significant effects on surface hydrology. Removal of vegetation changes the runoff characteristics, tending to increase the rate and volume of runoff. Such discharges may cause scouring and erosion of unprotected stream channels and can contribute to downstream flooding (Davis, 1967). Collier and others (1964) showed that surface mining increased maximum storm discharges in the study area. Tung (1975) employed a mathematical model to analyze historic streamflow data in the New River Basin area in Tennessee, finding that coal mining amounted to less than 5 percent of the area but increased flood peak flows of streams significantly by up to 2 feet in stage. Curtis (1972b) also documented significant increases in stream flood peaks, as a result of coal mining in Appalachia.

The Kentucky Department of Natural Resources and Environmental Protection (1977) reports that small tributaries with a high percentage of recently disturbed land probably had significantly higher flood levels as a result of the surface mining. Associated with flooding is a typically high increase in sedimentation rates. Erosion and sedimentation produce some of the worst environmental effects of unreclaimed mine land (U.S. Soil Conservation Service, 1978g). Contrary to the above findings, Curtis (1977b) reported on a small watershed with surface mining that had a lower flood rate than a similar unmined watershed in Kentucky during the April 1977 flood.

These changes can result from altered drainage patterns, storage of water on benches or in ponds, drainage of surface waters into underground mines, and changes in land cover (Collier and others, 1964).

(b) Ground water hydrology.--Mining can have adverse effects on the ground water regime of the area in and around the mining site.

Mining operations, particularly blasting, can fracture rock strata and produce fissures (cracks) in the bedrock. Flows into these fissures have resulted in acid or saline contamination of ground water, disrupted the flow of waters to aquifers, and dewatered aquifers closer to the surface (Grim and Hill, 1974).

Backfilling of mined areas can have a mixed impact on ground water hydrology with respect to the recharge capacity (infiltration and water storage characteristics of water bearing formations) of the areas receiving precipitation and overland flow. Backfilling generally decreases soil densities, thereby increasing porosity and infiltrating capacity of the backfilled material. Thus, a large portion of the rainfall which may otherwise run off now goes into the backfilled material. This decreases the peak flows and extends the low flow period. Thus, in eastern and midwestern coal mining areas some intermittent streams can become perennial (Grubb and Rider, 1972). However, the increase in infiltration decreases long-term moisture retention of backfilled material and the volume of low flows could be less than for unmined streams (Collier and others, 1964).

Surface coal mining reclamation operations have long-term adverse effects on the availability of ground water, by affecting its quality and quantity. Surface mining, at least on a temporary basis, eliminates any saturated zones in the overburden and depresses the water table in adjacent aquifers (Hardaway and Kimball, 1978). Surface mining may also facilitate upward leakage of water from underlying aquifers since removal of coal and overburden, blasting and drilling may increase the fracturing of confining beds of water (Grim and Hill, 1974).

Conventional surface mining operations replace the overburden with broken material and thus create fresh mineral surfaces which may be leached by percolating waters (Van Voast and Hedges, 1975; Van Voast and others, 1976; McWhorter and others, 1977). If such backfilled areas constitute a large portion of a recharge or saturated zone, leaching will cause increases in dissolved solids and, possibly, changes in the equilibrium chemical conditions of the water. This leads to increases in acidity, replacement of calcium and magnesium with sodium, and increases in sulfate minerals.

Surface coal mines operated in saturated conditions and on top of relatively stable and impermeable underburden involve the placement of haul roads to provide gravity drains from the mine pits. When backfilled, these roads can continue to drain water from the backfilled pit. Ground water seeps from the backfilled haul road can deteriorate other water sources if the ground water quality has been degraded by leaching.

(3) Regional Variations

(a) East.—Mining has had significant effects on the hydrologic regime in surface-mined watersheds in the East because of steep slopes (in contour mine areas) and the contour mining techniques (see Part B, Section II) used interacting with relatively high rainfall. Where contour surface mining activities involve casting overburden over the downslope, those practices contributed significantly to landslides and sediment movement into surface waters (U.S. Department of the Interior, 1967). Laws in all but three Appalachian States prior to the Act prohibit this practice (see table B7), but the effectiveness of these laws is unknown.

Flooding has been found to increase on the order of 50 percent, as a result of the mining of small watersheds in Appalachian areas (Collier and others, 1964; Curtis, 1972b). This increase in flooding, along with inadequate reclamation and failure of spoil banks, has resulted in increases in sediment yields to streams persisting for long periods after mining (U.S. Department of the Interior, 1967, H.R. 95-218, 1977, p. 120). On 98 percent of the surface mined areas in Appalachia, where contour mining is common, the prevention of erosion, sediment, and flooding is difficult because of inadequate storm water drainage controls (U.S. Department of Agriculture, 1973).

Sediment yields of up to 21,000 tons per square mile annually have been found in areas in Kentucky where unmined watersheds have yields of only 25 tons per square mile per year (Collier and others, 1970). Sediment concentrations in streams on the order of 30,000 parts per million have been found during storms, whereas streams in unmined areas under the same hydrologic circumstances have concentrations of only hundreds of parts per million (Collier and others, 1970; Collier, 1964). The dissolved solids content of streams in mined areas in Appalachia has been determined to be up to 12 times greater than in unmined areas: 1,370 tons per square mile annually in mined areas compared with 111 tons per square mile annually in unmined areas (Collier and others, 1970; H.R. Rep No. 95-218, 95th Cong., 1st Sess. at 80, 110-111 1977).

In areas where the buffering (acid-neutralizing) capacity of streams is limited, residual acid discharging from coal mines and amounting in total to an excess of 300,000 tons per year is not neutralized and may affect even large streams in the Eastern region (Musser, 1965). Increased concentrations of toxic heavy metals may also be associated with these acid streams and adversely affect public drinking water (U.S. Public Health Service, 1962).

(b) Midwest.— Midwestern mining, generally utilizing area mining techniques, can alter the hydrologic regime in a manner similar to eastern mining (Agnew and Corbett, 1973). Area mining techniques in humid settings have been found to have streamflows containing 17 times the amount of dissolved solids found in flows from nonmined areas. Particular pollutants have been detected in streams in mined areas at concentrations ranging up to 300 times that of unmined areas (U.S. Geological Survey, 1972).

(c) West.—Many of the potential hydrologic impacts of surface mining in the western United States are reflected in the geographic analyses of coal mining and environmental impacts contained in the summary report of the Northern Great Plains Resources Program (U.S. Departments of the Interior and Agriculture, and U.S. Environmental Protection Agency, 1974). A general discussion of these impacts follows.

The susceptibility of western coal lands to erosion and water quality deterioration approaches that of the other parts of the United States, due to the occurrence of high-intensity rainfall events, the relatively longer periods required to reestablish vegetation caused by the low amounts of rainfall occurring during the growing season, and the susceptibility of surface-mined overburden and water rates between coal beds to be leached resulting in an increase in the dissolved solids content of waters in and around mined areas (National Academy of Sciences, 1974).

Some of the hydrologic impacts of surface mining that may occur away from the mine site are: (1) increases or decreases in volume of surface water flow; (2) loss of ground water; (3) deterioration of water quality; (4) channel changes caused by an increase in sediment load; (5) destruction of aquatic habitats and (6) increase in endemic diseases among users of water that has been contaminated by mining (National Academy of Sciences, 1974).

Increases in total dissolved solids in ground waters infiltrating through coal mine spoils have been reported by McWhorter and others (1977), Van Voast and Hedges (1975), Van Voast and others (1976), Rahn (1976) and summarized by Hardaway and others (1977); Hodder and Dollhoph (1976); and U.S. Environmental Protection Agency (1977e). Increases of total dissolved solids pose threats to crops (Moss and Hoffman, 1977). The increase may be, in part, due to acid reactions of a smaller scale than those occurring in the coals of the East and subsequent neutralization with calcium and sodium (Hardaway and Kimball, 1978). In particular, increases in the content of dissolved sodium in waters supplying vegetation, either naturally or through irrigation for agricultural purposes, may result in increases in the sodium absorption ratios of these waters. This may lead to changes in vegetation species to those more tolerant of higher concentrations of sodium or other salts and less desirable for agricultural use (National Academy of Sciences, 1974; Hardaway and Kimball, 1978).

Perhaps of greatest concern in the western United States, particularly in the arid and semiarid portions of the West (which include most of the surface-minable coal lands west of the 100th meridian west longitude) is the potential of coal mining to diminish the quality and quantity of water available to agriculture. In particular, certain lowland areas called alluvial valley floors benefit, in terms of enhanced agricultural productivity, from the availability of excess water during the growing season. Alluvial valley floors account for an estimated 58,000 acres overlying coal reserves (source cited in following paragraph.

Surface as well as underground mining has the potential to disrupt and interrupt farming on these valley floors. For example, if the topographic and hydrologic systems of these valleys are permanently altered in any significant manner, such as by lowering the water table (U.S. Environmental Protection Agency, 1977a), or by creation of impoundments or swamp areas in lands which were previously harvested or grazed in a controlled manner during seasons of low rainfall, long-term loss of agricultural utility of those lands could result (National Academy of Sciences, 1977; Hardaway and others, 1977).

Several studies have developed estimates of the total area and of the area of strippable coal resource covered by alluvial valley floors. Based on a 3-county survey of southeastern Wyoming, Malde and Boyles (1976) estimated that slightly under 3 percent of strippable coal resource was overlain by alluvial valley floors. Schmidt (1977) estimated that from 1.4 to 8 percent of various coal resource tracts investigated in east central Montana were overlain by alluvial valley floors. Hardaway and others (1977b) calculated that on the average about 3 percent of the 87 coal lease tracts throughout the Interior Western United States was overlain by subirregated alluvial valley floors. An estimated 58,000 acres of alluvial valley floors in the West are underlain by strippable coal (estimated from data in U.S. Council of Environmental Quality and U.S. Environmental Protection Agency, 1977, and U.S. Bureau of Mines, 1971).

If all these areas were important to farms or were hydrologically complex in a manner that precluded mining under the provisions of the Act, 3 percent of the area with surface minable coal reserves in the West could be affected. The

Department of the Interior has utilized a value of 3 percent to approximate the amount of land and strippable coal that might be removed from estimates of reserves.

The value of 3 percent has been used because it has been repeatedly developed from several sources, as an average percentage for the alluvial valley floors area in the West, and represents a median value between the uncertainties of how much of this area can be mined and what the effects of mining adjacent to alluvial floors will be.

Applying the 3 percent value to the total area of the western coal reserve suggests that 58,095 acres of land with surface minable coal would be affected by these provisions (based on acreage estimates of surface minable coal Table B.2). It must be emphasized that this figure is not precise and that more accurate values will be developed with additional investigations in case-by-case permitting decisions under 30 CFR 785.19.

Western coal mining also has the potential to disturb areas of ground water recharge. Both highland areas and areas along streams that may provide most of the recharge water to shallow ground water aquifers may be disturbed by stream inversions, placement of overburden, and dewatering resulting for mining operations. Infiltration rates may be decreased, if overburden materials are mixed with soils and the quality of the water is decreased as the recharge water filters through spoil (National Academy of Sciences, 1974).

(4) Impacts by Types of Past Mining Operations

The impact of mining on the hydrologic regime varies according to the type of mining operation involved.

(a) Coal exploration operations

Coal exploration has been conducted by various methods. In coal bed outcrop areas, bulldozers and loaders are often used to dig test pits for the collection of samples. In other areas, core drilling is the most commonly used technique. Both practices can result in degradation of the area's water resources (see Part B, Section II.D.1).

Access to the prospecting area in the past has been generally by the fastest and least expensive method. As a result, the roads have not been located, constructed or maintained to minimize erosion or effects of stream crossings (see Part B, Section II.D.1).

In digging test pits along the outcrop, excavated material has been generally dumped alongside the pit and the pit abandoned after collection of samples. This practice contributes to erosion of the area and subsequent sedimentation problems in receiving streams (see Part B, Section II.D.1).

Acid and toxic mine drainage also may occur when coal seams and overburden contain a high pyrite content or other toxic-forming materials. Drill holes left unplugged may provide cross connections between aquifers containing water of varying chemical characteristics (see Part B, Section II.D.1). Water movement through these holes can contribute to the contamination of the area's surface and ground water resources (U.S. Environmental Protection Agency, 1976e).

(b) Surface mining (generally)

The process of surface mining usually involves changes in land cover and drainage patterns that may markedly alter the hydrology of an area (see Part B, Section II.D.3.d). Past studies have documented a cause and effect relationship between the occurrance of coal mining and the characteristics of streams draining mined watersheds (Curtis, Plass, 1975g; Simpson, 1977). In addition, impacts can occur to ground water resources and to downstream channel-forming processes (see Part B, Section II.D.3.d).

These impacts result from interruptions in one or more components of the hydrologic system of an area which affect other components in the system (Gregory and Walling, 1973). For example, the increases in water yield associated with forest cutting prior to mining may result in stream channel instability problems (Galbraith, 1973). The reader may wish to refer to the following case studies of different parts of the Nation that evaluate the effects of mining on the quality and quantity of both surface and ground water: Biesecker and George, 1966; Curtis, 1972a,b, 1973a, 1974; Gilley and others, 1977; Hardaway and others, 1977a,b,; Plass, 1975g; Simpson 1977.

(c) Underground Coal Mining (generally)

Adverse effects of underground coal mining on both surface water and groundwater may result from acid mine drainage flowing into streams from subsurface coal workings, from the subsidence of the land surface over active or abandoned workings which allows passage of contaminated water between the surface and aquifers, from erosion and water quality degradation as a result of waste (spoil) materials removed from the workings and placed on the level surface, and from alteration of surface and groundwater systems caused by construction and operation of surface facilities (see Part B, Section II.D.4). For example, significant degradation of surface-water quality can result from acid mine drainage and erosion of spoil piles and waste dumps. Environmental impacts from acid mine water drainage and subsidence are often delayed and tend to be of long duration (U.S. Dept. of the Interior, 1967). Coal processing may cause degradation of surface-water quality. Depending on the area of the Nation in which underground coal mining occurs, similar adverse environmental impacts can occur with underground mining as those mentioned under (b) above.

Underground mining may cause subsidence of the land surface both above and adjacent to the mine (National Coal Board, 1974; Grey and others, 1974). The potential for subsidence depends on the thickness of the coal seams mined, the geometry of the mine, and the thickness and strength characteristics of the overlying strata (National Coal Board, 1974; Bauner, 1973a,b; and Voight and Pariseau 1970). Subsidence creates fractures through confining strata below ground water aquifers. These aquifers then drain and their potentiometric surfaces drop. Wells in the affected aquifers go dry. If subsidence cracks extend to the land surface, surface drainage may be diverted into the mine workings (Dunrud, 1976).

Surface flows may be reduced to some extent, and the quality of the infiltrating waters degrade as the water percolates through to the mine workings. When this water passes through zones of pyritic sulfur (more prevalent at eastern than western underground coal mine sites), the water becomes acid and carries iron and other metals. The mining operation has to discharge larger quantities of this diverted water to treatment facilities or into aquifers or streams or other underground workings. Subsidence cracks that extend near the surface could also reduce or eliminate ground water discharges that form springs (Dunrud, 1976).

The effects of potholes and of the general lowering of the surface due to subsidence over the entire mining area vary. In some areas depressions created by subsidence may change hydrologic conditions of the area by retaining rainfall to recharge aquifers.

Subsidence may also form many fissures or channels in the rock strata. These channels can allow water to flow from one formation to another which can result in either contamination or drying up of fresh water supplies. Surface fractures may assist in recharging the ground water resources by allowing more surface water to infiltrate into the ground. In some cases this recharge will add supplies, in other cases it can increase acid drainage into aquifers. The magnitude of the effect of subsidence on water will thus vary on a site specific basis.

(d) Road usage

The construction and utilization of roads associated with coal mining operations primarily affect the surface hydrologic regime. The most widespread adverse impact may be caused by accelerated erosion of soils during construction and use of roads and by fording of flowing streams. Exposure of acid-forming materials in road cuts or embankments, spillage of spoil or coal into stream channels, release of vehicle supplies (grease and oil), inadequate stabilization of road embankments, improper alinement and excessive grades of roads, improper drainage, and unsuccessful revegetation and abandonment of road rights-of-way all contribute to pollution of surface waters (Kaufman and Ault, 1977; U.S. Environmental Protection Agency, 1976c; Grim and Hill, 1974).

Approximately 10 percent of the total surface area disturbed by mining is for road usage (Grim and Hill, 1974). Vegetation and wildlife habitat in areas of road construction is destroyed. The most severe erosion and sedimentation problems from roads occur in wet climates and in steeper terrain because the erosive energy of surface flow is greater (U.S. Environmental Protection Agency, 1976c; Reed, 1975; Grim and Hill, 1974). The increase in the amount of sediment discharged annually from coal mine roads may be enormous. One study documents 57,600 tons per square mile for haul roads within a mined watershed in Appalachia versus 28 tons per square mile from an unmined watershed (U.S. Environmental Protection Agency, 1976c).

(e) Impact of spoil disposal

(i) Toxic spoil.—The composition of material removed from the surface of mined land (spoil) has been described by Cummins, Plass, and Gentry (1965) and Grim and Hill (1974). The spoil may vary from clays and silts with small particles, to massive pieces of limestone and sandstone weighing several hundred pounds. Pyritic materials such as iron pyrite occur as crystals throughout much of the shale and sandstone, or as fairly large concentrations immediately above or within the coal seam. Upon exposure to air and moisture, these materials oxidize and release chemicals that lower the acidity and create toxic conditions to acquatic life (Peterson and Nielson, 1973).

The chemicals released consist almost entirely of mixed sulfate salts, originating as iron sulfate and sulfuric acid produced by the oxidation of the pyritic materials, and are discharged to surface and ground waters. Additional reactions, triggered by the presence of sulfuric acid on adjacent fragmented rock, may release into solution metallic elements such as calcium, magnesium, aluminum, manganese, sodium, and potassium, often in toxic concentrations. Calcareous rocks and spoil material may yield natural sulfates of calcium and magnesium, while acidic rocks and spoils yield high sulfates of aluminum, iron magnesium, and other irons (Struthers, 1962).

(ii) Valley and head-of-hollow fills.-Disposal of excess spoil from surface mining operations in steep-slope areas poses special problems for protection of the hydrologic regime. Spoil in these areas is disposed of in valleys or hollows. Valley and head-of-hollow fills, if not properly constructed, lead to physical and chemical degradation of water through seepage and leachate discharges from the fills, erosion leading to sediment discharges, and contaminated discharges from underdrains (Grimm and Hill, 1974; U.S. Bureau of Mines, 1977a).

(f) Impact of Scouring

Coal mining operations utilize structures for many different varieties of discharges to natural surface water channels, including overland flow and stream diversion outlets, water treatment pond discharge structures, road and other transportation route runoff release facilities, and impoundment spillways. Discharges, if not controlled, release at relatively high velocities and can result in the scouring of channels of receiving streams (U.S. Department of the Interior, 1966). Scouring can destroy the aquatic communities of the receiving stream in the immediate discharge area, as the result of trauma to and displacement and destruction of aquatic habitat; and it can adversely affect water quality and stream ecology for relatively large distances downstream, as a result of the creation of excessive levels of suspended solids material in the stream (U.S. Environmental Protection Agency, 1976c; Grim and Hill, 1974). Effects of suspended materials on aquatic species include asphyxiation by the blockage of respiration, inhibition of photosynthesis by the obstruction of sunlight, and irritation of gills, which may render the affected organisms more readily susceptible to infections (see discussion on sedimentation in Section III.b.4(a)(1)(a) above).

(g) Impoundments

Impoundments can have major effects on surface and ground water resources. Depending on the size of the impoundment, the retention of large volumes of water can substantially reduce the flow of water downstream and can completely alter the flow regime of streams causing filling and scouring of the stream channel and changes in water quality and temperature. In addition, the quality of water retained in impoundments degrades in stagnant impoundments upon evaporation since the total dissolved solids content increases. The construction of impoundments can have a potential adverse effect on the water quality, due to surface erosion before vegetative cover can be established on disturbed areas (Northern Great Plains Resource Program, 1974).

(h) Topsoil handling

Topsoil removal and handling can result in erosion leading to siltation of water resources. This occurs if topsoil is treated as part of the overburden and is buried, leaving spoil on the surface. The resulting surface is difficult to revegetate since potentially toxic materials may be exposed and the low fertility and waterholding capacities of the spoils provide an inadequate medium for plant growth. Since vegetation is difficult to re-establish, erosion and the leaching of toxic materials become problems. See Section B-III A. 3 for additional discussion of topsoil and vegetation impacts.

(i) Holes, wells, and other openings

Exploration holes, boreholes, wells, and other exposed underground openings associated with coal mining are sources of toxic and acid mine drainage from mined areas to surface waters. These holes and openings can also constitute cross connections between subsurface logers of varying chemical characteristics, thereby providing a pathway for contamination of an area's ground water resources by adversely affecting the quality or quantity of a ground water resource for desirable uses. (Ciolkosz and Kardos, 1973; Doyle, 1967; Penrose and Holubec, 1973; Stoddard, 1973; U.S. Environmental Protection Agency, 1973c).

b. Impact of the Regulatory Program on Hydrologic Systems

Implementing the regulations should minimize the impacts of mining on the hydrologic balance on a national scale to both surface and underground mining. The impacts will vary for separate sections of the regulations from region to region, and according to the type of mining methods employed.

The impacts of coal mining operations on the environment can have a variety of effects on the water resource, notably, changes in water quantity, quality, and timing for both surface and ground water systems and especially changes in recharge capacity (See Part B, Section II. D.1. through Section II.D.7.). Prior to SMCRA, 21 states regulated, to varying degrees, water flow and quality; 23 states had some provisions for control of backfilling and grading; 21 states required some actions involving burying or neutralizing toxic wastes; 4 states had some degree of control for roads or stream crossings; and 23 states required some degree of revegetation of exposed areas.

Thus, three of the twenty-four states with surface coal production (excluding Alaska) did not have surface mining laws or regulations which provide protection for water quality as of 1976 (see Table B7). These three States alone have an anticipated surface coal mining production from 1980 through 1985 that will disturb an estimated 22,000 acres of surface land (estimated from data in U.S. Council on Environmental Quality and U.S. Environmental Protection Agency, 1977, and U.S. Bureau of Mines, 1971, see Tables B2 through B5). Water quality would not be protected at all for the estimated 22,000 acres in the three States. This acreage represents an estimate of the magnitude of the minimum added protection of water quality offered by the proposed regulations.

While the remaining 21 States with surface coal production regulate the effects of coal mining on water quality (see Table B7), most vary from the proposed regulations. The actual magnitude of added protection of water quality may also vary; however, the effect of the difference between the State regulations and the permanent regulatory program cannot be explicitly quantified. The magnitude is, however, indicated by the estimates that 20 states without control for roads or stream crossings have planned surface mining which would disturb 239,200 acres; 1 state without provisions for control of backfilling and grading and without requirements for some degree of revegetation has 5,867 acres; and 3 states without requirements to bury or treat toxic wastes have 15,340 acres (estimated from data in U.S. Council on Environmental Quality and U.S. Environmental Protection Agency, 1977, and U.S. Bureau of Mines 1971; Imhoff and others, 1976).

Another factor affecting the magnitude of additional protection afforded by the proposed regulations is the existing water quality protection offered under NPDES systems on a nationwide basis under the Clean Water Act administered by EPA and the States. However, this applies only to point source water discharges from the active phase of coal mines and to discharges of certain toxic materials. (The EPA responsibilities are discussed in further detail in Part B, Section I.A.) The permanent regulatory program will additionally protect, first, ground waters and, second, against non-point source and all discharges during the reclamation phase to surface waters.

c. Analysis by Major Sections or Parts of the Permanent Regulatory Program Affecting Water

(1) Introduction

The following analysis by relevant sections or parts of the proposed regulatory program demonstrates how the regulations contribute to the added protection stated above. However, the above described overall impacts of the proposed regulations on the hydrologic systems are a result of the interrelationship of the regulations analyzed below and not attributable to any one regulation.

(2) Subchapter F--Areas Unsuitable for Mining

The regulations for designating lands unsuitable for coal mining are described and analyzed in Part B, Section III.B.2, Land Use. Water resources within such areas and downstream of areas that may be designated unsuitable would be protected from the adverse effects of coal mining.

(3) Subchapter G—Surface Coal Mining and Reclamation Operation Permits

Under Subchapter G, minimum requirements are proposed for permits for surface coal mining and reclamation operation and procedural requirements for coal exploration operations on private lands within the States. These regulations would not, for the most part, have a direct impact on water resources and uses, since they involve mostly the submission of information to the regulatory authority and procedures for the processing and review of permit applications. However, some provisions of Subchapter G will have direct impacts on water resources, such as the requirement that persons conducting surface coal mining and reclamation operation obtain permits under the permanent regulatory program (Part 771). This provision would limit coal mining to only those operations which the regulatory authority has determined: (1) will conduct mining in compliance with environmental protection standards (Parts 816-828) and (2) that reclamation of lands disturbed by those operations will be feasible. By making these two findings, the regulatory authority will insure that the applicant will use practices required by the performance standards of Parts 816 (Surface Mining) and 817 (Surface Effects of Underground Mining).

Also, the requirement that coal exploration operations involving the removal of over 250 tons of coal have to obtain the prior approval of the regulatory authority (Section 776.12) will limit large-scale coal explorations to those which will comply with the environmental protection performance standards of Part 815. The provisions of Part 815 will provide for practices to be used during exploration which, taken together, will afford protection of local water resources.

Several sets of special permit criteria relate directly to protection of water resources. One is the requirement that prior to approval of a permit, the regulatory authority is to conduct an assessment of the impact of all anticipated coal mining in the "general area" around the particular permit area on the hydrologic balance of that general area (Sections 780.21, 784.13, 786.19). Previously, there has been no effective national regulatory program involving area-wide planning to minimize the adverse effects from coal mining on water resources. Under this new regulatory program, the regulatory authority will be able to insure that the adverse cumulative effects of coal mining in a general locality are considered and minimized, where possible, by determining the schedule and scope of mining in that area.

Another set of permit criteria related to water resources is the standards for issuance of permits for coal mining in alluvial valley floors west of the 100th meridian (Section 785.19). This section would require that permit approvals and denials be based on assessments of the effects of mining on the hydrologic balance of those alluvial valley floors. Two criteria for permit evaluations would be provided. One is the assessment of the impact of mining on any affected alluvial valley floor for agricultural productivity. The other is a determination of whether material damage will occur from mining to the quality or quantity of water systems that supply alluvial valley floors. Permits could not be issued, if the proposed mining would interrupt, discontinue, or preclude farming (with an exception for small acreages and undeveloped rangeland of no significance to farming) and cannot be approved if material damage to water quality and quantity would occur. If mining is permitted, the operator will have to reestablish the essential hydrologic functions pursuant to Part 822 of the regulations.

The impact of this section will be to (1) protect water quality and quantity in areas that comprise about 3 percent of the land overlying surface-minable coal in the West (Malde and Boyles, 1976; Schmidt, 1977; and Hardaway and others, 1977a,b); (2) preclude dewatering of alluvial valley floors where that would adversely affect agricultural activities; and (3) to require those who receive permission to mine to reestablish the hydrologic functions of the alluvial valley floor under the performance standards of Part 822. This section would protect the prevailing hydrologic balance of particularly fragile and unique configurations in the semiarid and arid areas of the western United States which have long-term significance for the agricultural sector of the economy (H.R. 95-218, 1977, pp. 116-120).

(4) Subchapter K--Environmental Protection Performance Standards

Under this Subchapter, minimum substantive standards to protect the environment are established for both coal exploration and surface coal mining and reclamation operations conducted on private lands within a State.

(a) Coal exploration.-Performance standards for coal exploration operations on non-Federal lands which substantially disturb the natural land surface are established in Section 815.15 and include minimum National requirements for mitigating adverse impacts on the hydrologic balance from exploration operations. These impacts are primarily sedimentation, due to road usage, and toxic and acid contamination of water, due to drill holes. (See subparagraph a(4)(a) above.)

The construction, maintenance, and utilization of access roads will be regulated to minimize additional contributions of suspended solids to streamflow. Drill holes and other drilled excavations must be plugged or otherwise managed to prevent water pollution and mixing of ground and surface waters. Monitoring during exploration is required to provide information on how environmental damage may be minimized and to document compliance with applicable water quality standards. Treatment facilities or other devices must be installed, if necessary, to comply with applicable standards. Reclamation requirements are similar to those for mined areas although less extensive.

The impact, primarily of minimizing erosion and contamination of water, usually affects relatively small areas.

(b) Surface coal mining and reclamation operation performance standards.-The anticipated impacts from Parts 816-828 on water resources are complex.

Sections 816.13-816.15 and 817.13-817.15 - Casing and Sealing

These sections will require the permanent closure and reclamation of holes and openings made during exploration and mining, except as approved for use as monitoring wells or other acceptable purposes. Specific casing and sealing requirements will be dependent on the geohydrological conditions within the subsurface strata penetrated by the hole or opening. The adverse effects of holes and openings on water resources are primarily acid and toxic water contamination. (Refer to subparagraphs a(1)(b)-(d) above for a discussion of those effects.)

Regulations governing the management of drill holes, wells, and other underground openings should aid in the protection of the hydrologic regime by prevention of degradation of water quality by preventing acid mine drainage and preventing the intermixing and possible contamination of ground and surface waters. This should provide protection to the mining area hydrology, to aquatic life in affected waterways, and to the vegetation and wildlife dependent on the water within and adjacent to lands on which mining occurs. A local adverse effect may result when the waters of one aquifer are not allowed to dilute the more toxic waters of another.

Sections 816.22, 816.23, and 816.24 - Topsoil Handling

The purpose of these regulations is to assure that topsoil necessary for plant growth is removed, stockpiled and redistributed so as to create the most favorable qualities for revegetation. The requirements for stockpiling of topsoil involve protection from erosion with temporary vegetation or other measures. Redistribution of topsoil after mining involves reconstruction of a soil to produce a sequence of horizons with the most favorable qualities for plant growth (McCormack, 1976). Topsoil protection would minimize erosion and resulting sedimentation of surface waters by creation of conditions conducive to successful revegetation. The effects of erosion and sedimentation on surface waters are discussed in subparagraphs a(1)(a), a(3) and a(4)(g) above. Revegetation of disturbed areas in the long-run should substantially reduce sedimentation and other contaminated discharges (U.S. Soil Conservation Service, 1978b; U.S. Environmental Protection Agency, 1976(a); Grim and Hill 1974).

During periods when topsoil is stockpiled or immediately after redistribution there will be bare soil surfaces for intermittent periods that will be subject to wind and water erosion. This will cause sedimentation locally, until a vegetative cover is established. Erosion from disturbed areas or heavy rains will result in deposition of sediment in downstream channels or diversion structures. The amount of sediment entering watercourses will depend on a number of factors, including texture of the topsoil, slope, erosion control measures employed, the incidence of severe storms, time necessary to establish vegetative cover, proximity to streams and others. In eastern and midwestern areas these impacts should be negligable because there is usually ample moisture available for rapid growth of protective vegetation. In western regions, greater amounts of sediment may enter streams due to the longer time period usually required to establish a protective ground cover because soil moisture is generally inadequate.

Sections 816.150 - 816.176 and 817.150 - 817.176 - Roads and Associated Structures

These sections require the use of appropriate technology to limit degradation to the hydrologic regime resulting from construction, use and abandonment of mine roads. The effects of roads on water quality relate primarily to sedimentation due to erosion. Refer to subparagraph a(4)(c) above for a discussion of those adverse impacts.

These sections prohibit or restrict the use of stream fords to reduce stream bed disturbance and decrease sediment movement. Overland flow diversion and the control of water from undisturbed, upland areas along the roadway is not allowed to be affected or blocked. The flow of these waters must be controlled by properly designed, constructed and maintained ditches, cross drains and ditch relief drains.

Water systems on all major roads must be designed to handle a 10-year 24-hour precipitation event. Often these cross drainage ditch relief structures are dry or carry little more than a trickle flow during the dry seasons; however, the cross drainage structures sometimes pass quantities of water capable of eroding disturbed areas and placed road construction material. Collectively, the designed placement of cross drainage ditch relief drains should minimize the sediment carrying capacity and erosion forces of the redirected waters, due to maintaining flow in designated channels, adequate design and construction of ditch channels, passing water through culverts under the road, and placement of rip-rap above and below inlet and outlet points. Limiting the maximum grades of roads should reduce and limit erosion. Erosion is directly related to flow velocity of drainage, which is a direct function of slope or road grade (Kaufman and Ault, 1977; Grim and Hill, 1974).

Geotechnical analysis and design of road cuts and fills should ensure stability of the roadway and protect against catastrophic events, such as mass movements of road materials into roadway ditches or entering water courses. Controlled placement and density requirements for Class I and Class II roadway fills would ensure stability and prevent mass movement of materials into streams, avoiding the landslides in steep slope areas which are main contributors to erosion and stream sedimentation (Chassie and Goughnour, 1976).

Because of improved design and construction in regions of high annual precipitation, and in rolling or steep terrain in the East and Midwest. The sediment production from mined areas should be reduced (U.S. Environmental Protection Agency, 1976c; Reed, 1975; Grimm and Hill, 1974). As discussed above in subparagraph a(4)(c), approximately 10 percent of the total surface area disturbed by mining is for roads. Based on that estimate and discussed in Part B, Section III.B.5, an estimated 40,000 to 45,000 acres would be disturbed for roads associated with planned surface mining between 1980 and 1985.

Sections 816.41 and 817.41 - General Hydrologic Requirements

These sections establish the general requirements that surface and underground mining activities be conducted to protect the hydrologic balance. This protection is to be implemented largely through the more detailed requirements of Sections 816.42-57 and 817.42-57. Taken together, the impact of these requirements on water resources, will sharply decrease the total sum of adverse impacts associated with surface mining especially through water quality standard compliance, control of diversion, construction of sediment ponds, discharge structures, and monitoring. The adverse effects of mining on water resources in general are discussed in subparagraph (a) above. The adverse effects of mine site development are discussed in Part B, Section II.D(2)(d).

Protection of the hydrologic balance will enhance the survival and well-being of fish and wildlife particularly in the East. However, as indicated by Kinney (1964) and U.S. Soil Conservation Service (1978b), the impacts from past mining on fish and wildlife are not unique to the East, but can also be extensive in local areas of the West. The adverse effects of mining on fish and wildlife result primarily from sedimentation and toxic and acid drainage. These mining effects on fish and wildlife are discussed in subparagraphs a(1)(a)-(b) above.

Sections 816.42 and 817.42 - Water Quality Standards and Effluent Limitations

These sections establish that coal mine operations must meet minimum national water quality standards and effluent limitations and other applicable State and Federal limits and water quality standards. Maximum effluent limitations for suspended solids, pH, and iron will be required for all discharges from disturbed surface areas and underground mine working openings, excluding those surface areas in which only diversion ditches, sedimentation ponds or roads are installed in accordance with applicable regulations and where disturbed area is very small. Effluent limitations for manganese apply only to acid discharges. Compliance with the proposed regulations would preclude or minimize adverse water quality and ecological impacts. These impacts are discussed in subparagraph a above, with specific discussion of acid, iron and manganese in subparagraphs a(1)(b)-(d) above.

The EPA regulations control point source discharges during the active mining phase. The effects of the proposed regulations add control for non-point sources and would include all sources created during the mine development and reclamation phases. All drainage from disturbed areas is to be collected and passed through a sediment pond. This would result in reductions in the amounts of sediment, acid, iron, and manganese discharged to surface and ground waters. Information is not available from which to estimate the magnitude of reduction by individual states or regions, but the studies cited in subparagraph a above are indicative of the effects of sediment and toxic effluents. These studies do not account for more recent regulation of point source discharges through the EPA NPDES permit system or for State regulations for revegetation and control of toxic substances as listed in Table 7.

Section 816.43 and 817.43 - Diversions and Conveyance of Overland Flow and Shallow Groundwater Flow

Overland flow diversions are principally used to protect water quality and the stability of fills. Overland flows of clean water outside of disturbed areas must be protected from contamination. Contaminated water within the disturbed areas must be collected and routed to treatment facilities, and large fills must be protected from the unstabilizing effects of excess water.

This section establishes standards for the design, construction, and maintenance of diversions used to redirect overland and shallow ground water flows. These standards are national in scope; however, regional and local variations can be considered in design procedure by the regulatory authority.

The regulations could result in some adverse impacts, usually temporary, since they allow for diversions where such structures are necesary to protect fills or other structures or to reduce the amount of water flowing through areas of high contamination potential. Thus, if an operator chooses to divert flow, the normal overland flow which would have been dispersed over a large surface area would be concentrated in diversion channels and some erosion could be expected to occur. Also, creating diversions will locally disturb the naturally stabilized land surface. Some of these adverse impacts are mitigated through performance standards for diversion design to reduce velocities and provide a stable channel. The adverse impact of additional ground disturbance required for the construction of diversions is negligible on gradual slopes. However, in steep mountainous areas, diversion construction could result in significant land disturbance which would be difficult to stabilize during and after mining, because steep slope diversions would require greater surface area of exposed soil (cut and fill) to be stabilized and a greater length of diversion channel to maintain a reasonable channel slope gradient to reduce channel erosion (U.S. Soil Conservation Service, 1971).

The adverse impact of collecting and concentrating water in areas where normally overland flow would occur, results from the energy in the collected water and its erosive effects. However, Section 816.43 requires the use of energy dissipators which should mitigate this effect. Use of dissipators should also mitigate erosive effects where diversions discharge to natural stream channels. Also, once water is collected in a diversion system, the potential for failure exists. If failure does occur a much greater damage to the landscape would result than if the water was not concentrated.

The environmental regulations for diversions provide a higher degree of water quality and a higher degree of slope stability. Contaminated water collected through a diversion system within the disturbed area and routed to a water treatment facility would be cleansed and returned to the natural system. This would protect water quality in and around the mine site.

Section 816.44 and 817.66 - Stream Channel Diversions

This section requires stream channel diversions to safely pass maximum runoff volumes that may occur in a 24-hour storm. The 10-year and 100-year storm intervals are used for design criteria. The 10-year limit is consistent with general practice for temporary diversion structures (U.S. Bureau of Reclamation, 1973). Stream channel diversions may be either temporary or permanent. The 100-year period is generally accepted as a basis for design of intermittent and small perennial streams (Illinois Department of Mines and Minerals, 1976; U.S. Soil Conservation Service, 1971a). Channel diversions may be either temporary or permanent.

Due to the small amount of stream water diverted during surface coal mining and reclamation operations in the East and Midwest a decrease in flooding and resultant reduction of erosion and sediment discharged into streams will result; however, sediment discharges will occur when diversions are not adequately designed to contain flow of water (Grim and Hill, 1974; U.S. Environmental Protection Agency, 1976).

Section 816.45 and 817.45 - Sediment Control Measures

This section identifies seven optional sediment control measures that can be used in conjunction with the sedimentation ponds discussed in Section 816.46 and 817.46: (a) disturbing the smallest practicable area at any one time during the mining operation through progressive backfilling, grading, and timely vegetation; (b) shaping the backfill material to promote a reduction in the rate and volume of runoff, in accordance with Section 816.101; (c) retaining sediment within disturbed areas; (d) diverting runoff away from disturbed areas; (e) diverting runoff using protected channels or pipes through disturbed areas so as not to cause additional erosion; (f) using straw dikes, riprap, check dams, mulches, vegetative sediment filters, dugout ponds, and other measures that reduce overland flow velocity, reduce runoff volume, or trap sediment; and (g) treatment with chemicals. Diversions (as discussed above under Section 816.43) keep runoff from undisturbed areas away from disturbed areas and serve to decrease the magnitude of sediment and runoff that must be used to design sediment ponds. According to U.S. Environmental Protection Agency (1976a), U.S. Soil Conservation Service (1971a,b), West Virginia Department of Natural Resources (1975), Grim and Hill (1974), and Hill (1976) a variety of detention, retention, and erosion control techniques may be employed in disturbed areas to reduce the overland flow volumes or velocities and sediment movement to sedimentation ponds. These techniques and devices further reduce the volume of discharge to and sediment load on sedimentation ponds and, therefore, improve their effectiveness in attaining the desired low levels of suspended solids discharged from a permit area (Hill, 1976). Depending on the effectiveness of the optional sediment controls used at a given mine site, the size of the sedimentation pond can be reduced subject to approval of the regulatory authority.

The regulations should substantially reduce the total volume of sediment discharged from mining operations to surface waters, particularly in the humid areas of the East and Midwest where sediment runoff problems are most severe.

The impacts of sediment control will be similar for surface and underground mining, except for magnitude. Less land surface is disturbed for underground mining than for surface mining, therefore, the area subject to erosion and resulting sedimentation is less.

Section 816.46 and 817.46 - Sedimentation Ponds and Sections 816.47 and 817.47 - Discharge Structures

Section 816.46 and 817.46 require the use of sedimentation ponds, in conjunction with other erosion and sediment control measures, as best technology currently available to prevent additional contributions of suspended solids to streamflow outside the permit area. According to the U.S. Environmental Protection Agency (1977c) and Hill (1977b), sedimentation ponds used with other sediment control measures are considered to be the "state of the art" for controlling suspended solids discharged from surface coal mining operations. It is logical that sediment ponds be located as close to the sediment source as possible and before drainageways reach the main stream (Grim and Hill, 1974). This reduces the needed pond size by reducing the amount of flow to be handled.

Establishment of ponds will result in: temporary storage of sediments and water, control to a limited extent the water release rate, and change the characteristics of the transported sediments below the pond.

The regulations are premised on a design which should theoretically achieve a 94 percent efficiency of suspended solids removal in the runoff from surface coal mining operations. This is based on conclusions by Katharia and others (1976).

Prior to making an environmental analysis of sedimentation ponds, the performance (that is, the outflow concentrations) of the ponds must be evaluated.

A typical example in making the evaluation would be as follows:

If the disturbed-area runoff averages 50,000 mg/l of sediment of which 1,000 mg/l is finer in size than 0.45 microns, the 94 percent efficiency predicted for 24-hour detention would allow 2,940 mg/l of the coarser material, plus the 1,000 mg/l of finer material less than 0.45 microns to pass through the pond. Furthermore, because the disturbed area sediment flow nearly always contains a wide range of particle sizes (gravels, sands, silts, and clays), and because the trap efficiency of the pond can be expected to be 100 percent for gravel and sand, all of the 3,940 mg/l being released is clay- and some silt-sized material.

It is also helpful to note that the efficiency of sediment ponds to trap sediment varies inversely with the intensity and amount of runoff. That is, a relatively small amount of runoff might result in nearly 100 percent removal, whereas a 10-year 24-hour storm might remove considerably less than the assumed 94 percent.

The proposed design criteria will not obtain the same degree of trap efficiency for unusual storms such as those having runoff volumes between the 10-year 24-hour and 25-year 24-hour storm event. The regulations only allow flows greater than the 25 year 24-hour precipitation event to pass through the emergency spillway with a correspondingly reduced detention time. Flows resulting from an event greater than the 25-year 24-hour storm may overlap and have even less detention time, even if the system does not wash out. A wash-out could result in the erosion of large quantities of sediments previously deposited in the pond.

The stream's erosive potential energy is related to hydraulic gradient, flow volume and the amount of sediment being carried. When the coarse sediments of the normal base load of the stream are removed by the ponds, the energy formerly consumed by transport of these sediments is then "gained" by the stream and increases its erosive potential. Thus, an adverse effect of the pond could be degradation of the naturally stabilized channel bed below the pond by erosion of the stream banks and streambed, especially where the channel is formed in unconsolidated material and is not protected by streambank vegetation or other natural stabilizing conditions such as streambed "armoring." These adverse effects should be mitigated by energy dissipators, surge ponds, riprap channels, and other devices as required in Sections 816.47 and 817.47.

The rather low efficiency of the ponds to remove very fine sediment will cause outflowing water to be very turbid. Generally, most sediment ponds control flow from small areas; therefore, the turbidity in larger streams would be greatly diminished through dilution with adjacent non-disturbed area flows.

From the above analysis it is evident that sedimentation ponds will remove sediment concentrations from disturbed area runoff. The removal of all gravel and sand size sediments will prevent heavy accumulations of these materials on the bed and along the banks of streams. This in turn will prevent damage to biota from abrasion and suffocation. The trapping of fines, though not perfect, will substantially reduce the amount of fine sediment movement in larger streams which may receive discharges from a relatively large amount of surface mining may be underway. During long periods of time when a series of relatively small storms occur, it is expected that the sediment removal rate will be high, and when a larger storm occurs, the low efficiency would be at a time when the streams in their natural state would ordinarily be carrying heavy sediment loads.

Depending on local conditions and operating characteristics of the ponds, potential exists for additional adverse impacts due to the need to construct additional ponds and embankments due to this section as a result of the water quality controls of the regulations.

1. Construction of the embankments and ponds may cause additional movement of sediment until the embankments become stabilized. Trees, shrubs, and other vegetation will be removed from the acreage required for the ponds and embankments.

2. Sediment removal operations, and especially disposal areas, might cause some adverse impacts during cleanout. That is, sediment traps must be cleaned and the material disposed in a proper disposal site.

3. Pond removal and clean up may be accomplished after the reclaimed area has been stabilized and the flow has reached the ambient water quality standards. This has potential for movement of minor amounts of sediments until the area occupied by the pond and embankment becomes stabilized.

Flocculants may be used to help precipitate fine materials in ponds. This alternative would help meet the effluent limitations for suspended solids, decrease the retention time for water storage in ponds, and thus decrease the overall design capacity and size of ponds. The adverse impacts, however, may be a decrease in water quality downstream, because of the complex makeup of the flocculant and the chemical changes that occur. The regulations do not allow the use of flocculants if they do not meet effluent limiations, or are harmful to fish, wildlife and related environmental values as required in Section 816.46.

Sections 816.48 and 817.48 - Acid and Toxic Forming Material

These sections prescribe measures to prevent drainage from acid-forming or toxic-forming material into ground and surface water systems. Acceptable measures include identifying, burying, and treating (where necessary) such material and also preventing water from contacting such material. In addition, these sections would establish time limits for burial or treatment of acid- and toxic-forming material as well as temporary storage requirements. These sections are complemented by Sections 816.103 and 817.103 regarding reclamation standards for acid- and toxic-forming substances.

Protection of the chemical characteristics of the water so that aquatic life will not be impaired and so that water is of sufficient quality for downstream public and private uses will be ensured. Long-term improvements would occur both in the humid areas of the East, where acid drainage is more common, and in the West, where the discharge of salts to ground and surface waters is common (Hebley, 1973; Hodge, 1953; Sowolile, 1966; Woodly and Moore, 1967; Ramsey, 1969; Barthauer and others, 1971; Martin, 1974; Maneval, 1975; Barker and others, 1977).

Sections 816.49, 816.91-93, 817.49, and 817.91-817.93 - Permanent and Temporary Impoundments and Coal Processing Waste Dams and Embankments

Improperly designed impoundments utilized in mining for the storage of waste materials, treatment of effluents, or water used in mining operations have adverse effects on the environment. The quantity and quality of surface water is affected by any structure which diverts, obstructs, encroaches upon or impounds surface water (Linsley and others, 1975, Hjelmfelt and Cassidy, 1975). The quantity of water carried by a stream, when suddenly interrupted by damming, alters the hydroecological environs downstream (Hynes, 1970; Karr and Schlosser, 1977). If the quality of water impounded in structures is poor and improperly released, its discharge can cause chemical deterioration of water quality downstream (Ramsey, 1970; Riley and others, 1972; Calhoun, 1968; Coalgate and others, 1973). Impoundments, if not properly designed, may be overtopped during large storms which may subsequently induce failure of the structure. This would be a hazard to public safety as well as creating major effects on water quality by releasing impounded materials and by increasing streamflow during abnormal rainfalls (Thompson and Rodon, 1972; Moulton, 1973).

Sections 816.49, 816.91-93, 817.49 and 817.91-93 limit uncontrolled construction and use of permanent or temporary impoundments and should result in beneficial effects. The quality and quantity of outflows from these structures must maintain the baseflow of the hydrologic system and meet effluent limitations. Structural integrity, construction specifications, and all design phases must be in keeping with the protection of the hydrologic balance, while also protecting public safety and property downstream. Proper maintenance is also required.

The potential for development of permanent impoundments for surface mining is greater in regions mined by the area method than in regions mined by the contour method, due to topographic and other limitations associated with the latter method. Consequently, most of the permanent impoundments would be located probably in the central and western States and, if retained after mining, could be used for multiple uses, such as recreational activities, wildlife, or livestock watering. Coal waste dams, on the other hand, would be developed in the East and Midwest, where waste handling involves the use of large amounts of water.

For underground mining (Sections 817.49 and 817.91-93), impoundments would be used for the life of the mine. However, surface mining impoundments, especially for the large Western and Midwestern mines, would be used for shorter duration because operations move across the permit area, and mined land is being reclaimed concurrently and new ponds would be required.

It is also likely that more impoundments associated with underground mines would be constructed from coal waste materials than for surface mines. This is because coal wastes from surface mining can be buried during the contemporaneous reclamation processes but coal wastes from underground workings must be stored until after mining at which time they may be returned to the mined out cavity. Thus, impoundments from underground mines would result in a higher possibility of water quality contamination due to acid or toxic materials leaching into water supplies. However, this possibility is minimized by the requirements for discharges to meet Federal and State standards and for regulatory authority approval of the materials to be used in the structure.

The impacts resulting from underground operations would be greater in the East where underground operations are more common.

These sections would maintain a balanced water quality and regulate discharge to prevent floods during high rainfalls. In the steep terrain of the East, the regulations would reduce or retard peak flows. In the more rolling and flat terrains the reductions of peak flows would be secondary to protection of water quality. In all areas, however, maintenance of base flows would be important in its relation to downstream ecosystems.

Section 816.50 Through 817.50 - Control of Acid Drainage

These sections require the protection of ground water systems affected by surface mining activities, through careful placement of toxic or acid spoils; careful location and construction of mine pits, haul roads, and fills. These regulations will reduce those situations which would cause harmful changes in water quality or quantity. These measures will be carried out utilizing selective analyses of potentially toxic overburden materials made prior to mining, under sections 779.13-779.155, 783.13.783.17, 780.21 and 784.13 of the permit regulations.

Proposed Section 817.50 of the regulations controls gravity discharges of water from underground mines by requiring proper design of access, entries and slopes to prevent such discharges. The impact of the regulations is expected primarily in the the East where uncontrolled gravity discharges of acid mine drainage from drift mines have seriously polluted large areas of surface water. According to House of Representatives Report 95-218, 95th Congress, 1st Session (1977, p. 127), acid and mineral pollution from underground mining has affected 10,500 miles of streams in eight Appalachia coal states. Underground mines account for 67 percent of the pollution sources, and produce 88 percent of the acid drainage. Active underground mines, while representing only 5 percent of all mines, produce 19 percent of overall acid drainage. The impacts of acid mine drainage due to mining are discussed in subparagraph a(1)(b)-(d) above.

Section 816.51 - Ground Water Recharge Capacity

Section 816.51 requires that surface mining and reclamation operations be conducted so as to restore the recharge capacity of the affected area to approximate premining conditions. Restoring the recharge capacity should maintain the hydrologic balance of surface and ground water.

This section essentially requires placement of spoil in a manner that encourages vertical permeability for water movement equivalent to that existing prior to mining. Vertical permeability in this context means the movement of water from the land surface through the subsurface unsaturated zone in affected areas to recharge both aquifers and surface streams (Linsley and others, 1975). The recovery of the water table to premining levels may take approximately the length of time of the water drawdown period. During this period, users of shallow wells and springs would continue to be deprived of an adequate supply of water. Replacement of such supplies may be required under Section 816.54 and 817.54 (see below). Further, where the aquifer system disturbed consisted of more than one aquifer, each with a different potentiometric head, mining and reclamation may result in a postmining water table that is greatly different from that existing prior to mining (U. S. Environmental Protection Agency, 1977a). Natural aquifers confined within the overburden would be destroyed in the process of mining.

The overall impact of the proposed regulations on groundwater recharge capacity would probably be low, but mainly beneficial for many years. Data on the effects of surface coal mining and reclamation on recharge capacities of coal lands east of the 100th meridian is limited. See analysis of Section 816.50 for impacts in the West. A general discussion of the adverse effects of mining on groundwater hydrology is given in subparagraph a(2)(b) above.

In many eastern and midwestern areas, restoration would maintain the hydrologic balance, but in some instances, restoration could upset the hydrologic balance to some degree which could be either beneficial or detrimental, depending on the local conditions. For example, some reclaimed areas will retain more water in the subsurface than before mining, thereby enhancing the recharge capacity, providing more water for an aquifer, and better sustaining the flow of streams during dry periods. This type of hydrologic imbalance should be largely beneficial.

Section 816.52 and 817.52 - Surface and Groundwater Monitoring

Section 816.52 requires surface and ground water monitoring for both on and off-site areas. Monitoring provides information to: establish premining conditions, determine the effectiveness of water pollution control technology, forewarn of problems, identify problems which may inadvertently be created, and documenting whether operations proceed in compliance with permit limitations and regulations. Monitoring requirements would be specifically identified in the permit based on the plan submitted with permit application under Sections 780.21 and 784.13. This allows for the emphasis on what aspects of the hydrologic balance need monitoring with respect to regional variations for environmental considerations, and the amount of available information. These allowances for regional variations should reduce the possibility of collection of data that duplicates existing data, and should also facilitate collection of data for future transfer technology to new permit areas and the ultimate reduction of future data collection.

The proposed regulations should ensure that information nationally and regionally is available to detect measurable impacts of mining on the hydrologic balance and allow the regulatory authority to take corrective actions. Allowances are provided for regional variations.

Section 816.53 and 817.53 - Transfer of Wells

This section provides for the regulatory authority to approve the transfer of exploratory or monitoring wells for use as water wells by surface owners in the area. The conditions under which the transfers would be made would protect water supplies of a local area. The regulation would allow the regulatory authority to disapprove well transfers when it is evident that such a well would cause undesirable cross flow between aquifers. Wells disapproved for transfer would have to be cased, sealed, plugged or otherwise managed in accordance with Sections 816.13-816.15 and 817.13-817.15.

Section 816.54 and 817.54 - Water Rights and Replacement

This section implements Sections 508(a)(13), 515(b)(10), and 717 of the Act, by requiring replacement of a water supply used for domestic, agricultural, industrial, or other legitimate use, if that supply is particularly contaminated, interrupted, or diminished by mining operations. This regulation would insure that local users of water which have their water supply interrupted or contaminated by mining activities are protected through provisions of alternative sources. If it is probable that waters will be ruined, and there is no replacement waters available, then mining would not be approved. This type of mining restriction would be in force permanently or until replacement waters could be found.

Section 816.55 and 817.55 - Discharge of Water into an Underground Mine

Spaulding and Ogden (1968) reported that an estimated 75 percent of the water draining from deep mines in the area they studied resulted from surface mines. Water from surface mines is channeled through fractures and auger holes directly into deep mines. Once into a deep mine, the water runs along drifts over pyritic material where it forms acids and solubilizes heavy metals, then discharging into surface waters as acid mine drainage (U.S. Soil Conservation Service, 1975a). The adverse effects of acid mine drainage are discussed in subparagraphs a(a)(b)-(d) above.

This section prohibits diversion of surface waters into underground mine workings, with certain specific exceptions. The exceptions permit diversions only where underground disposal is more cost effective and provides an equivalent degree of environmental protection as would be obtained with surface disposal methods. The resulting discharge to surface or ground waters from such mine workings must meet applicable effluent limits under Section 816.42(a). This section should have local effect in the East by eliminating uncontrolled drainage from surface mines into underground workings, and thus acid and toxic contaminants to ground or surface water supplies due to seepage from surface coal mines.

Section 816.56 and 817.56 - Postmining Rehabilitation of Sedimentation Ponds, Diversions, Impoundments, and Treatment Facilities

This section will provide protection to water quality and the safety of the structures for postmining land use. Sound long-term maintenance of these structures should serve to reduce sediment discharges to surface waters. Additional benefits will arise from the uses to which these structures would be put. In the West and Midwest, they may be retained primarily for agricultural purposes because of the distances from population centers and the predominant agricultural land use patterns. In the East, they may be retained for recreational purposes and for use as treatment facilities of mine drainage from abandoned mining operations.

Section 816.57 and 817.57 - Stream Buffer Zone

These sections require protection of certain streams by establishing an unmined, 100 foot wide buffer zone between the stream and mining operations. This requirement will affect the water quality and aquatic habitat of local streams because the buffer zone will trap sediment reducing the amount of sediment from mine areas entering local streams (Trimble and Startz, 1957; Swerdon and Kountz, 1973; Yorke and Herb, 1978, p. 52-53). Buffer zones are an effective method which may used in conjunction with sediment ponds and other techniques to prevent sediment transport to streams (Karr and Schlosser, 1978, p. 229 to 234).

Exceptions to the width of the buffer zone are allowed at the discretion of the regulatory authority. Allowing mining operations to mine closer to the stream than 100 feet will increase resource recovery. However, the adverse effect of this will be to increase the potential for sediment and other materials to reach the stream, because the trap efficiency zone is reduced in size. In any event, an operator could not mine through a stream unless the stream had been diverted around the area of disturbance in accordance with the requirements of Section 816.44.

Allowing the zone to be greater than 100 feet will have adverse effects on coal production due to the larger area of coal taken out of production. However, this action would provide additional protection to habitats of wildlife, erosive-shifting stream channels, and side slopes, and other environmentally sensitive areas. All of these impacts are local and judgement must be made on a case-by-case basis by the regulatory authority.

Sections 816.61 Through 816.68 and 817.61 Through 817.68 - Use of Explosives

While the potential effects of blasting are often related to physical effects on structures, large scale blasting may have a direct effect on the hydrologic system or may have effects on man-made facilities which are constructed to make use of or control water, such as wells, developed water supply systems, impoundments, and flood control structures. It is possible that vibrations from blasting will disturb stream bank material and thereby cause local increases in sediment loads (Grim and Hill, 1974). It is also possible that bottom sediment in streams or reservoirs will be disturbed so as to cause similar increases. In areas of steeper slopes, blasting with no controls may cause flyrock or unconsolidated material on the valley slopes to fall into active stream channels (U.S. Bureau of Mines, 1977e).

Blasting may adversely affect ground water wells and ground water supplies by severing older well casings and by loosening material in encased holes so as to block water flow or to increase the concentrations of suspended solids of the water (U.S. Environmental Protection Agency, 1977c). Blasting may cause fracturing of strata that serve to confine ground water aquifers and may thus cause leakage of the water so as to reduce the availability of water (Grim and Hill, 1974).

Compliance with the blasting regulations should have a beneficial impact on water resources by protecting shallow ground water wells from the ground-motion through peak-particle velocity standards. In addition, loosening of valley and stream channel sediment may be lessened. Requirements for strict control and direct supervision of blasting activities by certified, competent blasters could be a major factor in preventing mistakes and non-compliance with blasting regulations.

Sections 816.71, 816.72, 816.73, 816.74, 816.81-816.83, 816.88 and 817.71, 817.72, 817.73, 817.74, 817.81-817.83, 817.88 Disposal of Excess Spoils and Waste Material

Practices of disposing of excess spoil and waste material produced during coal mining have contributed to water degradation (Grim and Hill, 1974; U.S. Environmental Protection Agency, 1977d) by discharging acid and toxic leachates into ground and surface waters by serving as sources for increased sediment load, and as areas of potential instability near streams or sedimentation ponds. While most State programs require burial of acid or toxic materials (Imhoff and others, 1976), the States take widely differing positions on construction of fill structures from spoil or waste material, making generalizations on impacts difficult. Only a few States (e.g., West Virginia) restrict valley or head-of-hollow fills or other waste disposal structures in a manner similar to that proposed by this regulatory program (Sections 816.71-74, 816.81-83, 816.88-89, 817.71-74, 817.81-83, 817.88-89). These State regulations have been implemented for too short a period to accurately assess their impact on long term stability and reduction of water degradation although a potential beneficial impact is predicted by some sources in the eastern regions (West Virginia Department of Natural Resources, 1975; U.S. Bureau of Mines, 1975a).

The regulatory program offers design criteria for many situations of spoil and waste disposal or requires design of the disposal structure by a professional engineer within certain performance limits. One purpose of these restrictions is to assure the stability of the fill structure for several purposes including the prevention of degradation of ground or surface water systems. This would be accomplished mainly by the design of the physical shape and location of the fill structure and by the construction technique itself (e.g., requiring four foot lift construction on some fills to permit sufficient compaction). A second purpose of the regulations is to decrease the erosivity of the material to prevent additional contributions of sediment and dissolved solids to the hydrologic system. This purpose would be accomplished by the surface shaping requirements (e.g., terracing and sloping restrictions) and by water diversion and drainage system design. The restriction of some types of material from dams, by sealing of non-coal wastes with impermeable materials, and by return of some wastes to underground workings are also intended to reduce the introduction of dissolved material, such as acid and toxic leachates, into the hydrologic system from spoil and waste disposal structures.

The impact of these regulations will be felt wherever coal mining occurs because spoil and waste are a part of all mining operations. However, the eastern coal regions, because of terrain and associated mining practices, commonly have more excess spoil disposal structures than the western coal regions and should be most heavily impacted. Underground mining operations produce significant amounts of coal wastes and regions with more underground operations will feel the effect of the waste control measures most strongly.

Section 816.100 and 817.100 - Contemporaneous Reclamation

Under this section, the operator will be required to reclaim the disturbed area as contemporaneously as practicable with actual mining operations. For surface areas disturbed by coal mining, this would, in general, require backfilling and regrading to approximate original contour, establishment of vegetation, removal of facilities, and achievement of an approved post-mining land use.

The requirement of contemporaneous reclamation should result in long-term protection to ground and surface water resources because prompt grading and timing revegetation should reduce the discharge of sediment loads to surface waters. Grading and backfilling would reshape the surface to its approximate original contour and provide the base for topsoiling and revegetation wherever mining is conducted. This also includes burial of toxic, acid-forming, and saline spoils to reduce polluted discharges and runoff from disturbed areas.

Sections 816.101 Through 816.105 and 817.101 Through 817.103 - Backfilling and Grading

Sections 816.101 and 817.101 specify minimum timing for backfilling and rough grading for all general types of surface mining. Long-term reduction in sediment yields and short- and long-term reduction in discharges of toxic mine drainage should be the beneficial result from backfilling and grading.

The restriction of Section 816.101 on the amount of area that may be left unbackfilled and ungraded should be more apparent in the East and Midwest because the mines in those regions involve larger areas (see Section B.II.D.). This restriction should reduce total sediment and toxic discharges from disturbed areas, compared to mining operations in the past where much larger surface areas were allowed to remain unbackfilled and greater sediment and toxic discharges to surface and ground waters resulted.

Section 816.102 and 817.102 provides detailed requirements for non-uniform slopes. These include grading to approximate the general nature of the premining topography, to eliminate highwalls by achieving a static safety factor of 1.3, and to allow for terraces and small depressions compatible with the approved postmining land use. These requirements should reduce sediment movement and minimize earth slides into surface waters. Where long uniform slopes are used, sediment yield can be much higher until vegetation is established (U.S. Soil Conservation Service, 1977).

Section 816.103 and 817.103 requires the covering of coal, acid-forming and toxic-forming materials in a manner which would minimize potential drainage from these materials into the ground water or surface water environment. If simple special handling of the backfill is insufficient protection, provision is made for these to be treated before disposal. The impacts of this requirement would be the same as those discussed above for Section 816.48.

Sections 816.104 and 816.105 allow for deviation from the general requirement of restoration of the mined land to approximate original contour where thick or thin overburden is found. The impact of the general requirements for backfilling and grading on water would be less in these areas to the extent that natural drainage patterns are altered.

Sections 816.106 and 817.106 - Regrading or Stabilizing Rills and Gullies

These sections require the restoration of regraded areas when rills or gullies of more than 9-inch depth develop. Formation and development of rills and gullies promotes channels for sediment transport. Newly vegetated areas are particularly susceptible to erosion, and rills and gullies can develop rapidly as evidenced by experience at the Savage and Rosebud mines in Montana (U.S. Environmental Protection Agency, 1976c). Sheet erosion readily begins on slopes where soil is unconsolidated and vegetation is insufficient to protect the soil surface from the energy of rainfall impact. Flow tends to converge, and rill erosion begins as the energy available for sediment transport increases. The rills converge and gullies begin to form (Gregory and Walling, 1973). McWhorter and others (1977) observed that the development of rills in upland areas is a significant factor in the transport of detached soil particles. Rills and gullies tend to continue to enlarge unless they are stabilized.

These sections could result in a short-term impact on the water resource by loosening soil particles when surfaces are redisturbed to prepare new seed beds. Sediment would enter streams and control facilities until the vegetative cover is reestablished.

Sections 816.111 Through 816.117 and 817.111 Through 817.117 - Revegetation

These sections require the prompt establishment of vegetation on mined areas to minimize landslides, erosion, and sedimentation of streams. Mulching is required to minimize erosion while permanent vegetation is becoming established; proper timing is necessary to assure that there will be no major lag between completion of regrading and subsequent revegetation; and revegetation of various plant species is required to fit approved land uses. Successful revegetation must meet area climate and edaphic conditions.

These sections should result in changes to water resources in all sections of the country affected by mining through protection of water quality by the reduction of sediment discharges from lands disturbed by mining through the use of revegetation techniques.

Section 816.133 and 817.133 - Post Mining Land Use

These sections will have impacts on water resources. Plans for post-mining land uses must include design specifications to conform to applicable and acceptable standards and supervision of the plans is required by a registered professional engineer, or other appropriate professional to assure land stability, drainage, and vegetative cover to protect the quantity and quality of the water resources.

Section 817.121, 817.122, 817.124, 817.126 - Subsidence

Sections 817.121, 817.122, 817.124, 817.126 would minimize surface impact from underground mining from subsidence. These sections require operators to prevent subsidence from causing material damage to the surface, to the extent technologically and economically feasible; to notify land owners and residents on surface property of subsidence potential and to protect or restore structures from material damage. Section 817.126 authorizes the regulatory authority to prevent mining beneath any perennial stream, any impoundment storing 20 acre-feet or more, or any aquifer that serves as a significant source of water supply to any public water system.

Compliance with the regulations would have a minor impact on the environment in terms of protecting the overlying surface and ground water systems through evaluation and by use of available subsidence control technologies such as backfilling or retention of coal in place. The effect would be minor, since the techniques available to predict interference of underground mining with the overlying hydrologic system are imprecise and since subsidence correction measures are not required other than to prevent subsidence in addition to that existing and as economically and technologically feasible. Thus, complete elimination of subsidence will not be achieved if mining is permitted.

Significant adverse impacts of subsidence may be avoided under the provisions of the regulations which allow mining to be prohibited. Streams, impoundments and significant aquifers would not be disturbed because mining would not occur. It is not possible to predict either the extent to which underground mining would endanger the water carrying and holding resources nor the extent to which regulatory authorities will exercise the authorities provided. In any case where mining is prohibited, there will be adverse impacts on the availability of coal resources. These adverse impacts would be evaluated by the regulatory authority before mining was prohibited.

Section 819 - Effects of Auger Mining on the Hydrologic Balance

These requirements preclude or minimize the potential adverse hydrologic impacts of auger mining by requiring the plugging of holes within a timely period, except where it is determined that the drainage from the holes will not result in adverse water quantity and quality characteristics for the nearby surface streams. In this latter case, an internal drainage system is to be installed through the backfill to allow for the reduction of water pressure and, thus, to prevent saturation of the backfill. In situations where the potential water contamination cannot be controlled, augering is prohibited.

The significance of these proposed requirements would be variable for local areas depending upon the geohydrological characteristics and the extent of augering. Historically, auger mining has been concentrated in the Appalachian region, with lesser activities in the central States and almost no auger mining occurring in the western States (see Part B, Section II).

Part 822 - Alluvial Valley Floors

These regulations will apply to surface coal mining and reclamation operations on alluvial valley floors or which affect alluvial valley floors in the arid and semi-arid areas located west of the 100th meridian west longitude. In determining the scope of these regulations, the Office decided to limit their reach to semi-arid and arid regions west of the 100th meridian, based on the specification of Section 510(b)(5) of the Act and its legislative history. This will exclude some potential alluvial valley floor areas east of the 100th meridian, but as is revealed in the analysis of impact of the definition of "arid and semi-arid regions" in the draft Regulatory Analysis, the impact of limiting Part 822's scope should not be great, because virtually all alluvial valley floor coalreserves are located in the West.

The principal objective of these regulations is to establish minimum performance and reclamation standards to protect the existing or potential agricultural uses and productivity of alluvial valley floors during and after mining. To achieve this objective, these regulations require: (1) the preservation of the essential hydrologic functions of alluvial valley floors throughout the mining and reclamation process by maintaining or reestablishing the geologic, hydrologic, and biologic characteristics that support these functions; (2) no interruption, discontinuance, or preclusion of significant farming activities; (3) no material damage to the quality or quantity of water in surface or underground water systems that supply alluvial valley floors; (4) the continuation of agricultural uses on the alluvial valley floor; and (5) monitoring to assess impacts on existing and potential agricultural systems and on the hydrologic and biologic systems. These regulations also prohibit the interruption, discontinuance or preclusion of farming on alluvial valley floors that are significant or critical to a farm's agricultural activities.

Depending on site-specific hydrologic conditions, these regulations and those in Section 785.19 will protect the prevailing hydrologic balance by ensuring that mining and reclamation plans adequately evaluate the essential functions of those agriculturally important areas and that the functions are reestablished so as to maintain their agricultural utility. The regulations apply only to operations approved pursuant to Section 785.19.

In cases where surface and underground coal mining operations are approved at locations adjacent to alluvial valley floors, these regulations would require modification of some operations so that the quantity and the quality of surface and ground water resources are not materially damaged. Examples which can result in such material damage are operations which would permanently lower the water table in the alluvial valley floor below the level required for supporting of grasses, or alfalfa or other vegetation; and create encroachment of box-cut spoils upon the valley, permanent diversion of surface waters and construction of impoundments. All of these limit the amounts of water available to the valley floor and adjacent areas.

The other provisions of these regulations relating to monitoring of the hydrologic conditions, in some instances, may result in improved techniques for future protection to the quantity and quality of surface and ground water systems yet to be disturbed. Thus, providing for hydrologic monitoring will provide new information needed to develop appropriate improved strategies in water and land-use planning in these areas.

Part 823 - Prime Farmland

The performance standards for prime farmlands would have a minor long-term impact on water resources in the midwestern region where the majority of prime farmlands are located. The requirements of these regulations include revegetation of stockpiled soil materials which would have an impact on surface water by retarding erosion. The provisions for stockpiling the materials will facilitate the reestablishment of vegetation after mining. Careful location of soil stockpiles and erosion control measures will reduce the potential for water pollution.

The removal and replacement of soil horizons would change the soil permeability which may increase or decrease surface water flow and ground water recharge because of changes in soil density and porosity. These changes would depend on geographic location and local conditions, and may only be temporary rather than long-term primarily due to the reestablishment of vegetation.

Part 824 - Mountaintop Removal

These sections provide special environmental protection performance standards for surface coal mining operations that propose to remove entire coal seams from hilltops and ridgetops and to leave relatively flat to gently rolling postmining topography as opposed to grading to an approximate original contour. Mountaintop removal operations are required to adhere to all performance standards of Part 816 with the exception of the requirement to grade to approximate original contour.

Mountaintop mining tends to affect surface water hydrology more than ground water systems. The major effect on hydrology is surface water change in the hydraulic gradient of stream channels. Sediment would be more easily deposited in upper reaches of streams due to the resulting relatively flat terrain, inward drainage from the outslope, and sediment control measures on top of the mountain. This will also result in less sediment load in downstream areas because drainage is only allowed in stable protected channels.

Permanent impoundments under Section 816.49 may be approved by the regulatory authority and could provide opportunities to retain some surface water runoff on mined mountaintops. Increased infiltration of water into the mined area through the floor of an impoundment may occur, but, for example, alternating shales and clays may likely exist below the coal seam to limit any significant recharge to underlying aquifers.

Post-mining land configuration and controlled flow and release of surface waters from the reclaimed lands would minimize erosion and sediment transport from the highland areas where erosion potential of the disturbed lands is significant. The local hydrologic balance could be reestablished partially through diversion of surface waters along inward-sloping reclaimed areas and the possibility of infiltration of water on gently rolling slopes. The downstream hydrology may be altered because of adjustments in water flow and reduced sediment loads from the affected areas.

The regulations will have impact in the eastern region because most mountaintop removal mining will be limited to the central Appalachian coal field.

Part 826 - Steep-Slope Mining

Surface mined lands in areas which have natural slopes greater than 20 degrees are potentially vulnerable to slope instability and erosion. Mining in such steep sloped areas may seriously impact the hydrologic system, both locally and regionally, by contributing large amounts of sediment to surface water systems and potential susceptibility to landslides. Instability is usually accompanied by severe erosion (Curtis and Superfesky, 1977; Huang, 1978; Kimball, 1974; Weigle, 1966; Kentucky Department of Natural Resources and Environmental Protection, 1977).

These regulations will have an impact on the hydrologic characteristics in the East by prohibiting placement of spoils on the downslope, except for use of road fills. Prohibiting spoils in downslopes also will substantially decrease the probability of slope failures and the discharge of large amounts of sediment into surface waters (Huang, 1978; Williams, 1978). To insure stability of the highwall and spoil, the regulations also provide that a static factor of safety of 1.3 for

spoil replacement be achieved and require a proper external drainage system. Erosion control may be further achieved through establishment of an adequate vegetative cover (Curtis, 1971c).

In addition, these sections require that the highwall be completely eliminated. This should eliminate the discharge of acid and toxic forming waters from the highwall strata. Excess spoil must be disposed of in accordance with Sections 816.71-74 and woody material is prohibited in the backfill area unless approved by the regulatory authority. These requirements should have a long-term effect locally and throughout the eastern region, by the reduction of acid and toxic discharges, sediment discharges, and the reduction of unstable slopes.

Under Section 826.13, a variance from the requirement of restoration of steep-slope mined land to its approximate original contour may be granted. However, award of the variance is conditional upon the land being reclaimed to improve watershed control, by reducing flood hazard or the discharge of sediment or toxic pollutants. Impacts on hydrology from the award of these variances should be localized but, by terms of the regulations, not available unless beneficial to water.

Part 827 - Coal Preparation Plants

These regulations require that ground and surface water resources within an area be protected from the construction, operation, maintenance, and abandonment of coal preparation plants and associated facilities not within the permit area of a specific mine. To insure that disturbance of the hydrologic balance is minimized, all proposed environmental performance standards set forth in Part 816 are applicable to these facilities.

Within specific watersheds and at individual preparation plant sites, these performance standards will impact the hydrologic regime depending primarily on the location of the plant with respect to the hydrologic resources of the regime. Plants located in humid areas and near surface and ground waters will be more apt to cause impacts on water resources than will plants located in arid climates. Thus, the impacts of these requirements will therefore accrue at plant locations in the East and Midwest where such water resources are more prevalent. The regulations controlling the discharge of acid drainage from coal processing wastes would protect stream water quality and aquatic conditions. To further protect the water quality, the discharge of clays and other solids from the processing facilities will be controlled, surface waters will be diverted to minimize leaching of wastes, and the random spillage of coal in the vicinity of the processing plant area and subsequent erosion by surface water will be limited. Similar effects will be realized in the western States, although to a lesser degree, since there are fewer coal processing plants in the West.

Section 828.1 - 828.12 - In-Situ Coal Processing

These regulations provide environmental protection performance standards for in-situ coal processing operations that are in addition to those required by Part 817.

In-situ coal gasification processes affect water quality by the creation and increase of simple and complex organic compounds and their release to the aquatic and terrestrial environment. In-situ operations may have high risk of environmental degradation since chemical and physical reactions and movement of fluids in underground coal seams are not fully understood. The gasification process has great potential for creating nitrogen compounds, phenols, and other carbon compounds in gaseous and liquid forms (Edgar, 1978). The land surfaces overlying in-situ gasification projects will be subject to the occurrence of subsidence (Mead and others, 1978); the initial impact of which have been observed at a test site in Wyoming.

The requirements provide special standards for minimum disturbance of the hydrologic balance and require the operations to be conducted to maintain the quality of affected ground waters to approximate premining levels or better. The proposed regulations include specific monitoring requirements because of the high degree of uncertainty that exists when projecting the effects of in-situ processing.

5. Vegetation

Since soils and vegetation are interdependent, the discussion of impacts on vegetation has been combined with the discussion of impacts on soils in Part B, Section III.A.3.

6. Wildlife

a. Impacts of the Permanent Regulatory Program

Adverse impacts of the preferred alternative would result from several regulatory provisions which may require disturbance of additional surface areas and, thus, may cause more loss of wildlife habitat than mining under existing levels of control. These include the regulations for storage of segregated soil horizons which requires disturbance of land for storage piles, and design criteria for diversions, impoundments, sedimentation ponds, and roads.

With two exceptions these impacts will be short-term, with the lands being reclaimed after mining. The exceptions occur when the regulatory authority approves the retention of impoundments or roads as part of the postmining land use. In those cases the changes of premine habitat will be long-term. However, while the creation of impoundments will eliminate habitat for certain wildlife species, their retention will create new habitat for other wildlife species.

Regulations require operators to protect or restore productive wildlife habitats upon which continued wildlife species survival is dependent. In addition, threatened and endangered species' habitats will receive the same level of protection on non-Federal and non-Indian lands that they are afforded on Federal lands.

States having strippable coal reserves already have some degree of regulations controlling mining activities that provide direct and indirect benefits to wildlife (Tables B3 and B7). Specific requirements for wildlife or habitat protection were not identified in any State by Imhoff and others (1976), although numerous requirements related to other resources clearly relate to wildlife resources. No State is known to have the degree of protection of threatened and endangered species habitats found in the preferred alternative. In some cases, State regulations may be as stringent as OSM's preferred alternative because of the relationship between wildlife needs and such resources as water, soils and vegetation. Under the preferred alternative and where desirable, States may also adopt more stringent regulations than those proposed by OSM. When the preferred alternative provides more protection to wildlife than an existing State program, a beneficial effect on wildlife and wildlife habitat would result.

An estimated 431,900 acres would be disturbed for surface mining operations planned for 1980 through 1985 (estimated from data in U.S. Council on Environmental Quality and U.S. Environmental Protection Agency, 1977; and U.S. Bureau of

Mines, 1971). Protection of threatened and endangered species habitat will be increased for the non-Federal and non-Indian portion of this acreage. Protection of other wildlife habitat may be increased an indeterminable amount by the requirements for specific consideration of wildlife values and by the protection of related resources which are discussed in other parts of this EIS.

b. Analysis of Major Program Regulations Affecting Wildlife

The following analysis presented by relevant sections or parts of the preferred alternative demonstrates how the regulations contribute to the added protection stated above.

Threatened or Endangered Wildlife Species

The Endangered Species Act of 1973 protects threatened or endangered wildlife species on both Federal and non-Federal lands. However, under Section 7 of that Act, habitats of those species are protected only on Federal lands or when a Federal action will affect habitats on non-Federal lands. OSM's preferred alternative (Part 780 and regulations) extends the provisions of Section 7 of the Endangered Species Act of 1973 and regulations (Parts 780 and 784) implementing that Section, to State regulatory authority actions on non-Federal lands.

Where preliminary wildlife studies or consultation requirements of the regulations (Sections 780.15 and 784.20) identify previously unreported endangered or threatened species and their habitats, these areas may also be designated as unsuitable for surface mining under the petition process provided for in Part 764 of the regulations.

Wildlife Plan and Performance Standards

Mining activities displace some wildlife species into other areas where they are brought into competition and behavioral interaction with wildlife populations already established there. This will usually lead to increased stress, lower productivity and even mortality in either or both the displaced species or those populations already established on adjacent habitats from being crowded by animals displaced from mine sites. These are unavoidable impacts of mining which are not mitigated under the regulations. However, certain avoidable impacts of mining such as effects on reproduction and migration routes, wildlife and their habitats during actual mining operations may be reduced through the regulatory requirements of Sections 780.15 and 784.20 which require a wildlife protection plan as a part of the coal mining permit application. In addition, Sections 780.15 and 784.20 establish requirements for consultation with wildlife agencies to assure that stipulations for protection of wildlife become part of the mining permit.

The regulatory requirements of Sections 780.15 and 784.20 will permit utilization of best currently available technology to minimize impacts of specific mining operations on resident and migratory wildlife species. Specific techniques available to minimize stress or displacement of wildlife populations include timing, shaping and sizing operations to avoid breeding or nesting seasons and areas, and protecting key food, cover and water resources throughout the life of the mine.

The performance standards for wildlife are found in Sections 816.97 and 817.97. Fencing, when required by the regulatory authority, will prevent large mammals such as deer and antelope from direct contact with toxic chemicals in sedimentation ponds. Fencing or construction of overpasses or underpasses for roadways will protect many large wildlife species from roadkill during mining operations.

The revegetation of lands designated for primary or secondary use as wildlife habitat after mining with species of high nutritional or cover value will tend to enhance the use of these areas by wildlife, particularly for game species. The requirement to distribute vegetative groupings to maximize benefit to wildlife may result in increased protection from predators for certain wildlife species. Furthermore, winter survival of wildlife may be increased in an area, particularly when trees and shrubs are used in revegetation. Where the postmining vegetation type is a conversion from wildlife habitat to row crops, requirements have been included to establish trees and hedgerows to provide suitable cover, foraging areas and nesting sites for representative birds and mammals.

The provision to enhance the wildlife habitat value of postmining lands designated for industrial use will also benefit wildlife. Revegetation of commercial/industrial, residential or public facilities sites as required by the regulations will provide varying degrees of food and cover for some wildlife species, probably birds and small mammals (Spaulding and Ogden, 1968, pp. 18-19; Dvorak and others, 1977, pp. 59-80).

Topsoil Handling and Revegetation

Wildlife species depend greatly upon vegetation both as a food source and shelter. Vegetation establishment, in turn, is largely dependent upon substrata and moisture conditions. Regulations requiring proper topsoil handling and replacement, and revegetation of reclaimed land are conducive to wildlife survival since most terrestrial species are dependent on soil and vegetation resources.

Topsoil handling and storage requirements of the regulations will cause short-term adverse impacts on wildlife. Dust and wind and water erosion resulting from topsoil handling and disturbance can adversely affect wildlife. Dust deposits can reduce the palatibility of forage utilized by wildlife. Indirectly erosion can affect wildlife by destroying soil and/or vegetative resources (Dvorak and others, 1977, p. 58; Spaulding and Ogden, 1968, p. 14-25).

Regulations for storage of topsoil will temporarily destroy habitat under the storage piles. Separate storage of the A and B soil horizons mandated by the regulations would increase the area of habitat lost to mining activities. This increase in the areal extent of soil storage piles is site specific and dependent on the volume of the involved A or B horizons and the depth of the stored material.

The adverse effects of topsoil storage requirements on wildlife are mitigated, in part, by the regulatory requirements to establish a protective cover on stored topsoil. Where this protective cover is vegetation, habitat for wildlife will result. This habitat may not be the same as the premining habitat nor support the same species as existed prior to mining. In these cases habitat for individual species may be lost; however, other wildlife species could benefit from the "new" habitat.

Wildlife habitats will be enhanced by requirements for plant species diversity, productivity, effective ground cover and use of native plant species (Section 816.111-117). Introduced plant species (Section 816.112) may be substituted for native species only after field tests demonstrate that introduced species are of equal or superior value and are ecologically compatible with local plant and wildlife populations. This provides for the substitution of introduced plant species in environments where native plant species exhibit low rates of establishment or growth. Both native and introduced plant species may facilitate the timely reestablishment of wildlife habitat (Riley, 1957, pp. 402-413).

Water Quality, Diversions, Sediment Ponds, Buffer Zones and Alluvial Valley Floors

Sections 816.41-57 and 817.41-57 establish standards for the protection of water quality and retention of available water supplies. These regulations protect the quality of water supplies for wildlife as well as the supply of available water.

Protection of both water quality and quantity is important in the West where water to support wildlife populations may be severely limited. In the East and Midwest where water supplies are less limited the major benefits will accrue in terms of water quality. All wildlife species dependent on water supplies that could be adversely affected by unregulated mining activities will benefit (McCormick, 1978, pp. 3-4; Spaulding and Ogden, 1968, pp. 19-25).

Stream diversions and construction of temporary impoundments to comply with regulations protecting water quality and quantity will have temporary adverse effects. Diversion of a stream for any significant length of time will result in loss of riparian vegetation which is valuable habitat for many wildlife species. Further, impoundments will flood the habitat of some wildlife species. The loss in habitat in these cases will be equal to the area of the impoundment. The loss of habitat could be temporary in that the regulations require removal of temporary impoundments unless approved as permanent features following mining.

In some cases water impoundments provide wildlife a source of water, or habitat resulting from riparian growth around the impoundment. This may be negated with the removal of the impoundments following mining. Where the impoundments contain toxic waters or sediment laden waters these could adversely affect wildlife or could be of limited value to wildlife. Fencing, a discretionary requirement of the proposed regulations, when used, could minimize the adverse effects of toxic waters of such impoundments by reducing the potential for poisoning or indirect mortality among most larger forms of birds and mammals.

Section 816.57 and 817.57 of the regulations require a buffer zone of 100 feet between surface or underground mining activities and perennial streams or streams with a macroinvertebrate biological community. Protection of such buffer zones assures continuing riparian vegetation and riparian habitat of value to most wildlife species.

Riparian and other wetland habitats may be of unusually high value to wildlife, especially in semi-arid parts of the West. They provide forage and cover for the majority of birds and other wildlife species throughout North America (McCormick, 1978). These habitats have a relatively diverse vegetative structure which in turn generally supports more diverse and productive wildlife populations than do adjacent areas. Case studies in western and southeastern regions of the United States indicate that less than 10 percent of original riparian habitat persists (McCormick, 1978). Therefore, protection afforded to alluvial valley floors by the regulations will provide long-term benefits to wildlife habitat associated with alluvial valleys.

7. Aquatic Life

a. Impacts of the Permanent Regulatory Program

Implementation of the regulatory program provides for the restoration, protection, enhancement, and maintenance of aquatic life in waters that may be affected by coal mining in the United States. Under the preferred alternative, water resources will be protected from mining operations on and downstream of an estimated 431,900 acres that would be disturbed for surface mining operations planned from 1980 through 1985 (based on data from U.S. Council on Environmental Quality and U.S. Environmental Protection Agency, 1977; and U.S. Bureau of Mines, 1971). Provisions (discussed below) of the program will also indirectly protect the habitat characteristics including streambeds, velocities, etc., on which aquatic species are dependent. The NPDES permit system under the Clean Water Act already provides protection to water quality through effluent standards during the active mine phase but not during the mine development and reclamation phases of operations (see Part B, Section I.A.5.). Under the program, the protection of water quality will be provided to those pre- and postmining phases of mining.

As discussed in Part B, Section III.4.b(1), three states with planned surface coal production did not have regulations protecting water quality other than the NPDES requirements as of 1976. The planned production in these states will disturb an estimated 22,000 acres of land. These acreages are indicative of the magnitude of impact of the proposed regulations on aquatic life since the presence or absence of aquatic organisms is often a function of water quality (Odum, 1971, pp. 295-323; Mason, 1977). Since aquatic resources are largely dependent on water quality and quantity, the reader is referred to Part B, Section III.4 for an analysis of regulation impacts on water.

b. Analysis of Major Program Affecting Aquatic Resources

The regulations provide for the utilization of best technology currently available (BTCA) for minimizing adverse impacts of mining on aquatic resources and related environmental values, where possible, as well as the enhancement of these resources where practicable. BTCA is defined in Section 701.5 and the performance standards are at Sections 816.97 and 817.97. These sections include regulations which will provide standards for the protection of aquatic life during mining and for the restoration of aquatic habitats.

Impacts on aquatic life are due to maintenance of hydrologic balance (Sections 816.43-816.44, 816.47, 816.49, 817.51; 817.43-817.44, 817.47, 817.49, 817.51). Maintenance of instream flows under those regulations will minimize effects to minimum depths, flow velocities, temperatures, and overall aquatic habitat. Aquatic species adapt to those habitat characteristics and are adversely affected by extreme variations (Odum, 1971, pp. 295-323).

The regulations establish standards for water quality and quantity (Section 816.41-57 and 817.41-57). Constituents in water and supplies of water limit the abundance and diversities of aquatic life. Therefore, the parts of the regulations dealing with water quality and quantity are important, especially the effluent discharge maximum allowable limits (Section 817.42). The controls on the quality of water leaving the mine site will be such as to minimize the potential for magnification of toxic elements within the food chain of aquatic organisms. These regulations require compliance with applicable effluent limitations as control measures for four major constituents: pH (hydrogen ion concentration), total iron, total manganese, and total suspended solids.

Aquatic life is frequently damaged through uncontrolled and untreated acid mine drainage and toxic substances emanating from mine sites. In the eastern United States the problem has been particularly acute for the past 75 years. At least 5,000 miles of streams have been degraded by acid mine drainage and toxic chemicals in Appalachia alone (Spaulding and Ogden, 1968, pp. 14-15). The regulations focus on the reduction of such discharges through water treatment facilities for reducing acid and toxic metal discharges to streams from mining activities (Sections 816.41-42, 45-46; 817.41-42, 45-46). In addition, toxic materials produced by mining will be controlled by burying (Sections 816.48, 103; 817.48, 103), and surface and underground mine openings discharging polluted water will be sealed or the water will be treated at the end of mining (Sections 816.13-15, 50-53; 817.13-15, 50-53, 131-132) thereby eliminating or limiting acid and toxic materials discharged into waterways. In cases where discharge from underground mines is allowed, impacts to aquatic organisms are not generally anticipated because the discharge must be treated or the discharge opening sealed in a manner to ensure that drainage meets applicable State and Federal effluent limitations.

Casing and sealing of surface and underground mine openings (Sections 816.13-15 and 817.13-15) will prevent the escape of acid and toxic discharge to on-site and off-site streams and ground water. This will result in the maintenance of pre-mining water quality and reduce impacts to aquatic life, resulting from mining nationwide. The reduction minimizes the potential for the direct destruction of aquatic organisms, such as rooted aquatic plants and bottom dwelling animals, or by interference with some critical stage of a species' life cycle (e.g., reproduction). The effects will be most evident in the East, where larger amounts of rainfall and runoff yield the highest potential for acid and other toxic mine drainage damages exist (see discussion in Part B, Section III.A.4(a)(3)(a)).

The regulations require that buffer strips be left between mining operations and waterways (Section 816.57 and 817.57). Maintenance of an adequate buffer strip between mining operations and waterways is expected to minimize adverse impacts on aquatic life by reducing the amount of polluting materials leaching from exposed pits, spoil piles, and by reducing sediment loads discharged to streams from storm-water runoff (Mason, 1977). Maintenance of buffer zones, particularly in the forested eastern area, will prevent increased water temperatures from incident solar radiation by maintaining vegetative cover and shade. This will protect fresh water fishes such as various trout and walleye, and eggs, larval or pupal stages, of other aquatic organisms which are dependent on relatively cold water for survival (Odum, 1971, pp. 117-118 and 195-296). Where waivers of the buffer zones are granted, changes to stream ecology due to sedimentation, and temperature where vegetative cover is removed, may cause species adapted to the stream conditions extant before mining to die out or move downstream. Other species, more tolerant of those conditions would likely fill the niche (Mason, 1977).

Stream diversions destroy aquatic life and habitat. Diversions usually tend to be straighter than the original stream, therefore eliminating important pool and riffle zones necessary for balanced aquatic communities (Odum, 1971, p. 297). Pools and riffles provide habitat for growth of invertebrate fish food and are necessary for successful fish populations (Spaulding and Ogden, 1968). Although new habitat is established in the new channels, it may not approximate the original channel configurations, thereby reducing pools and riffle zones and resulting aquatic life productivity.

Sections 816.97(d)(6)-(7) and 817.97(d)(6)-(7) and Sections 816.44(b)(3) and 817.44(b)(3) of the regulations require the restoration of both diverted intermittent and perennial streams, and require that diverted streams contain alternating patterns of riffles, pools and drops rather than a uniform depth which causes changes in stream bed characteristics, water temperature as well as amount of dissolved gases important to aquatic species (Odum, 1971, pp. 295-298). These provisions help mitigate the lost aquatic habitats due to stream diversion and should result in beneficial impacts nationally. In instances where stream diversions are temporary (Section 816.43) and are unnecessary following completion of a certain phase of mining, the temporary stream will be filled, graded, and revegetated. This will represent a loss of newly created habitat for some aquatic species. Also, for some time period after closure of the diversion, certain invertebrate organisms in the original, restored stream may be adversely affected by the new flow rates and increased water volume. This is particularly true for bottom dwelling invertebrates and some aquatic plants.

The removal of diversions, however, is expected to have an overall net beneficial effect on the local stream since the diversion normally will not be in existence for a long enough time to allow for the formation of of habitats as diverse as in the main stream (Mason, 1977).

Permit Application

The regulations require information on environmental resources in the mine plan before issuance of a mining permit, particularly on hydrologic resources (see discussion in Part B, Section III.A.4(b)(3)(a)). The permit application must contain results of studies on aquatic life in the mine plan and adjacent areas (Sections 779.20 and 783.30). Under those sections, the applicant and the regulatory authority would consult with fish and wildlife management agencies. This will provide those agencies with an opportunity to identify any important aquatic species that should be considered for protection prior to a decision to mine.

A beneficial impact will also result from establishment of baseline data for use in planning and consideration of species prior to a decision to mine. Section 779.16 requires the presentation of data on surface water constituents of total dissolved solids, total acidity, dissolved iron and other parameters as specified by the regulatory authority, to establish baseline conditions for predicting what safeguards will be heeded for maintaining and protecting aquatic life.

Part 780 dealing with requirements for reclamation and operation plans (i.e. how the operator plans to provide adequate protection to aquatic life), requires the identification of protection measures before mining to ensure maximum possible protection to aquatic life resources.

Written guidance from fish and wildlife agencies regarding aquatic studies in the mine area (Sections 780.15 and 784.20) will add another margin of protection to aquatic ecosystems that could be affected by mining activities. These regulations provide for assistance to the mining company that will allow a relatively rapid identification of what studies of aquatic organisms are relevant for the particular region proposed for mining.

Sediment/Erosion Control

The regulations (Section 816.42 and 817.42) require that sediment discharge be limited during all mining and reclamation phases to standards established by EPA. Typically, sediment is a major obstacle to aquatic species colonization in streams, lakes and reservoirs regardless of location. Sediment draining into waterways blankets spawning sites, and when in suspension decreases light penetration and clogs the gills of fish, sometimes resulting in suffocation. Also, see discussion in Part B, Section III.a.(1)(a). The regulations provide for detention of surface runoff to permit sediment settling in sedimentation ponds (Sections 816.46 and 817.46), revegetation of disturbed soil (Sections 816.111-117 and 817.111-117), proper mine spoil control and treatment to minimize sedimentation (Sections 816.71-93 and 817.71-93). Ultimately, less sediment will reach the Nation's waters.

Adverse impacts to aquatic life may result from increases in sedimentation resulting from the disturbance of land during construction and removal of sediment control structures. These impacts are temporary, and their extent is dependent on the effectiveness of other sediment control measures required by the regulations.

The regulations require prompt and effective vegetative cover to mined lands to reduce erosion and restore the land to premining levels of productivity (Sections 816.111-117 and 817.111-117). A secondary beneficial impact due to revegetation requirements of the regulations would accrue to aquatic life because vegetation cover impedes the flow of sediments into streams. Less sedimentation of stream channels and along shorelines should ultimately result from implementation of the revegetation requirements. However, topsoil handling and storage requirements may result in some sedimentation which may adversely affect aquatic life in nearby streams.

Threatened and Endangered Species

The regulations provide for protection of the threatened and endangered aquatic species in addition to existing State and Federal laws. The type and magnitude of protection for aquatic species will be the same as that for wildlife, which is discussed in Part B, Section III.A.6.

B. HUMAN ENVIRONMENT

1. Cultural Resources

a. Impacts of the Permanent Regulatory Program

Cultural resources include sites, buildings, districts and objects of architectural, historic, archaeologic and cultural importance. Cultural resources are ubiquitous and are likely to exist in many areas, large or small, where coal exploration or mining operations may occur. Mining operations can destroy cultural resources or adversely affect the integrity of the resources so as to destroy the characteristics that make them of national, State or local significance.

The proposed regulations (Section 779.24) will extend protection to properties listed on or eligible for listing on the National Register of Historic Places from the adverse effects of coal exploration and mining operations to non-Federal lands. The regulations will have the most impact in the eastern and midwestern regions where most coal is located on non-Federal lands. Federal statutes already protect cultural resources on most western coal lands because Federal leases are subject to Section 106 of the National Historic Preservation Act. Because the proposed regulation extends similar protection to non-Federal lands, an estimated additional 8.2 million acres overlying strippable coal reserves will be subject to the consideration of historical and archeological sites prior to mining (estimated from table B2 and U.S. Department of the Interior, 1978). Of this, an estimated 431,900 acres would be disturbed for planned production between 1980 and 1985. Cultural resources on those lands, if any, would be identified and protected by the proposed action (data for both estimates from U.S. Council on Environmental Quality and U.S. Environmental Protection Ageny, 1977, and U.S. Bureau of Mines, 1971).

The regulations require that all applications for exploration approval and for surface and underground mining permits must include information on cultural resources in the area. Such information serves as a baseline against which the regulatory authority can evaluate the proposed mining and exploration operations. The regulatory authority may not approve such applications where the proposed activities would adversely affect cultural resources listed or eligible for listing on the National Register of Historic Places.

Under the regulations, areas may be designated as unsuitable for surface coal mining operations through a petition process. Protection of cultural resources is one criteria for such designation. Thus specific areas of unique or highly significant cultural resources may receive protection from damage from coal mining operations. It is not possible at this time to quantify the amounts and kinds of lands which will be designated through the petition process. This protection may, however, be temporary, since these designations may also be terminated through a petition process.

2. Land Use

a. Impacts of the Permanent Regulatory Program

Concern at the national and local level over surface mining stems from the recognition that land has multiple environmental, social, and economic uses that may be incompatible with surface mining. The land surface and subsurface effects of mining on land use are many and varied. Disruption of the land surface can be extreme and in severe cases it may be impossible to restore the land to its original productive use. The regulation will mitigate many of the adverse impacts of mining by requiring careful selection of areas to be mined and reclamation planning to accomplish restoration to original conditions or other useful postmining land uses.

A general magnitude of the minimum national impact of the regulations on land use can be seen by comparing the existing State laws and regulations with the proposed Federal regulations. Twelve of the twenty four States with surface coal production (excluding Alaska) did not have surface mining laws or regulations which required the consideration of alternative postmining land uses when mining (Imhoff and others, 1976). (See Table B7 for a summary of State laws.) These States have a planned surface production from 1980-1985 which will disturb an estimated 157,000 acres of surface land (estimated from data in U.S. Council on Environmental Quality and U.S. Environmental Protection Agency, 1977, and U.S. Bureau of Mines, 1971). Only 6 States with planned surface production have all four elements of land use planning required by the regulations (columns 16-19, Table B7) and many of these have less stringent or less extensive requirements. The 18 States which do not have all four elements have an estimated planned surface production from 1980-1985 which will disturb an estimated 304,190 acres of surface land. These acreages represent an estimate of the magnitude of the additional lands under the proposed regulations for which postmining land uses must be considered.

Additional protection of land use is offered by the regulations of lands unsuitable for surface coal mining. Designations of lands unsuitable for surface coal mining will not occur, however, until petitions are filed and decisions on those petitions are made by the regulatory authority. Therefore, it is not possible to estimate the magnitude of the impacts due to the petition process in the designation regulations. However, 21 States with planned surface coal production did not have general authorities to exclude lands from coal mining (Imhoff and others, 1976). These States have a total of 379,600 acres that are planned to be disturbed for production. Only a small portion of this acreage may actually be protected by the petition process. However, comparison of the 52,300 acres subject to exclusion of mining provisions within the 3 States having such authorities to the 379,600 acres not subject to such provisions does indicate the potential magnitude of the regulations.

b. Analysis of Major Program Regulations Affecting Land Use

Designation of Lands Unsuitable for Surface Coal Mining

Traditionally, coal mining has preempted other uses of the land, even instances where the other uses were equally or more desirable. The regulations establish procedures to designate areas as unsuitable for all or certain types of surface coal mining, thereby enabling the State and Federal governments, by permit determinations, to identify areas where mining and its impacts on land use will be permitted.

There are two major categories of unsuitability designations. First, the regulations implement the prohibitions or limitations on mining declared by Congress. Under that action, all environmental resources on those lands would be protected from the adverse effects of coal mining. Thus, unless exempted, mining is prohibited within the National Park Systems, the National Wildlife Refuge System, the National Trails Systems, the National Wilderness Preservation System, the Wild and Scenic Rivers System and National Recreation Areas. Congress also limited or prohibited surface mining of Federal lands within the boundaries of any national forest where significant recreational, timber, economic, or other values are present which may be incompatible with surface mining. Exceptions are provided in national forests west of the 100th meridian. The magnitude of additional protection provided under the Act is reduced to the extent the areas are already protected from some or all of the adverse impacts of surface mining through other Federal laws and regulations. Major Federal lands designated as unsuitable for surface coal mining are shown in figure 29 along with the major coalfields of the United States.

Surface mining also is excluded where it would adversely affect public parks; areas included in, or eligible for listing in, the National Register of Historic Places; and areas within 100 feet of a public road, 300 feet of an occupied dwelling or public building, and 100 feet of a cemetary, unless the mining is agreed to by the parties responsible for those properties.

The second major category of unsuitability designations will be for those lands which are selected through a petition process. The petition process provides for both mandatory and discretionary designations. Where reclamation is technically or economically infeasible, the regulatory authority must designate that area unsuitable for coal mining. Where mining would be incompatible with existing Federal, State and local land use plans, cause significant damage to important cultural, scientific and esthetic values and natural systems, result in a substantial loss or reduction of long range food or fiber productivity, or substantially endanger life and property in areas subject to frequent flooding or unstable geology, the regulatory authority has discretion to designate such areas unsuitable for coal mining. The regulations will protect some nationally, regionally and locally significant lands, resources and land use values from permanent alteration or destruction.

Mining Permits and Performance Standards

Coal mining is closely regulated by some States through permit requirements and performance standards. In other States the activity is less strictly regulated (table B7). The regulations will provide a degree of uniformity for minimal standards among the States, although individual States may still enforce more stringent regulations on coal mining if they choose.

Permit requirements for all phases of mining, whether by surface or underground methods, include a detailed description of land use prior to mining and the development of a land use plan describing the use to be made of the land following reclamation. The land use description requirement provides baseline data against which success or failue of postmining land uses can be estimated. The land use plan must describe the capability of the land to support proposed postmining land uses and the relationship of such uses to existing land use policies and plans. This land use description and plan should facilitate a more complete evaluation of site conditions, particularly prior to development of an alternative postmining land use, than is commonly practices.

Performance standards are used in this program to reduce the adverse impacts of exploration, mining, and reclamation activities, especially those which may result in erosion, sedimentation, and soil degradation. One of the ultimate goals of these standards is protection of the natural environment (e.g., the hydrologic balance). This will facilitate a wide range of alternative post mining land uses.

The permit requirements and the performance standards require timely restoration of land use following mining and contain standards and incentives to insure successful reclamation. Therefore, the adverse land use impacts of individual mines should be short term.

Postmining Land Use

Traditionally, post mining land use has not been regulated and both reclamation and the post mining land uses were determined by the mine operators. This has resulted in adverse environmental impacts (e.g., erosion, water pollution with acid drainage, esthetic blight, and destruction of land for other productive uses) (U.S. Council on Environmental Quality, 1973, p. 318).

The regulations allow a permit to be issued for surface coal mining only after the permittee has considered the premining and proposed postmining land uses and has made provisions in a reclamation plan that assure attainment of the postmining land use. In all cases, the permittee must restore the affected land to a condition capable of supporting the premining land use or a higher or better land use. When a permittee proposes to change the land use, he must provide assurance of:

- o compatibility with adjacent land use and (or) local planning and zoning;
- o feasibility of postmining land use as related to local and regional needs;
- o adequate planning of public facilities;
- o financial feasibility of the postmining land use;
- o the development of a postmining land use plan that conforms to accepted planning standards, the premining land capability, and information contained in the resource inventory; and
- o planning so that postmining land use does not present hazards to public health and safety.

Compatibility between adjoining land uses has historically been determined through planning, zoning and subdivision ordinances at the local and State level (Council of State Governments, 1975). The requirement in the regulations to include a written statement from the authority responsible for land use plans with the permit application assures that local planning authorities are aware of the alternative proposed postmining land use. The compatibility requirement is nonspecific which will provide flexibility in recognition of local variation in environmental, economic and social conditions and needs. This regulation will encourage interaction between the permittee and planning authority prior to postmining land use development. This will be especially true in many rural communities where surface mining occurs and local planning is performed by volunteer or part-time professional staff to ensure compliance with plans and policies.

Historically, alternative postmining land use was not required to be feasible and (or) related to local or regional land use trends and economic needs. The requirement to ensure feasibility when postmining land use differ from premining land use is proposed and effect on local communities by assuring that mining will not begin until the long term economic stability and consideration of local and regional trends and markets have been identified and reflected in the reclamation plans.

Approved comprehensive and zoning plans generally take into consideration the capability of existing and planned services to accommodate future land uses. The requirement that the permittee plan for alternative postmining land use service needs will reinforce implementation of local planning decisions where an approved plan exists. This will insure that the postmining land use will not disrupt existing or planned development of services. However, in localities without such approval plans, consideration will be given to public service requirements and how the specific requirements of the postmining land use can be met without placing a burden on the existing system of services.

In the past there has been no requirement to encourage the financial feasibility of alternative postmining land uses. This regulation will assure the economic soundness and, thus, the probable completion of the proposed postmining land use.

Variance from the requirement for restoring lands to the approximate original contour may be granted by a regulatory authority only for mountaintop removal and steep slope operations where the postmining land use is determined to be an equal or better economic or public use (Parts 824 and 826). The land-use categories for which variances in mountaintop removal operations may be granted are limited to industrial, commercial, residential, agricultural, and public uses, including recreation. In steep slope operations, the approved postmining land use may be industrial, commercial, residential or public use.

Restoration to a higher or better alternative land use is permitted but the strict criteria and procedures set forth in the regulations to insure against failure to attain the post-mining land use may inhibit such conversions. This impact may be considered adverse in areas where different land uses are socially and economically desirable. However, the provisions to develop alternative postmining land uses through a variance to approximate original contour requirements could result in altering landforms to support land uses that had not previously been possible (e.g., commercial, residential, industrial).

Some communities may find the provisions for citizen participation and the uncertainties associated with changes of land use to be burdensome. To the extent that this is considered burdensome, these regulations would have an adverse effect on those communities.

3. Esthetics

a. Impacts of the Permanent Regulatory Program

The regulatory program minimizes the adverse impact of mining and reclamation operations upon the Nation's visual environment by achieving a logical balance between mining activities and protection of the visual resources. Implementation of the regulations will ensure that esthetic features remain after reclamation or, if reclamation to restore the esthetic features of fragile or historic lands is not technologically or economically feasible, may prevent mining.

Immediate restoration of visual resources after disturbance by mining is not possible in all cases. For example, replacement of premining forest conditions in a single growing season is not feasible. The amelioration of adverse environmental effects will, however, result through consideration of cultural and esthetic and other environmental features in the permit application.

The impact of the regulatory program will be achieved, for the most part, as an indirect effect of applying the permit requirements and performance standards to mining operaitons. An indication of the magnitude of that impact is that the program requirements will be applied to 431,900 acres of land that would be disturbed for planned surface mining operations from 1980 through 1985 (estimated from data in U.S. Council on Environmental Quality and U.S. Environmental Protection Agncy, 1977, and U.S. Bureau of Mines, 1971). In addition, effects will be derived from the regulations for designating lands unsuitable for surface coal mining, the magnitude of which is dependent on a petition process.

b. Analysis of Relevant Regulations in the Program

The regulations establish procedures for designation of lands unsuitable for all or certain types of mining. A beneficial impact nationally will result from these provisions through protection of the esthetic integrity of parkland, forest lands, and recreational areas. Some unique fragile or historic lands with esthetic value may be designated unsuitable for mining when geologic and topographic features cannot be reconstructed. Lands which are not technologically or economically feasible to be reclaimed can be designated unsuitable for mining once the regulatory authority grants a petition relating to such lands.

The regulations require mapping and descriptions of environmental resources in proposed permit areas to be submitted with the permit application. Regulatory authorities will be informed and the permittee will be aware of these resources and will have included this data in the mine plan. Descriptions in the plans will help to determine how landscapes will be restored to a premining condition and how management techniques will be used for maintenance of this condition.

Road construction and site preparation for facilities change the landscape by removing vegetation, exposing soils, and shaping and rearrangement of the landform. Erosion should be reduced, dust levels lowered during mining and unneeded roads restored after mining.

The proper disposal and reclamation of coal refuse piles and slurry areas will decrease visual disharmonies. Excessive siltation and other disruption of natural stream appearance will be avoided through implementation of the regulations.

The regulations for return of land to approximate original contour will require graded spoil to be returned to approximate original contour and the elimination of highwalls. In the East, this requirement will eliminate the scars of unreclaimed contour benches; in the West disharmonies of spoil ridges and piles (see B.III.A.2). This type of reclamation should ensure esthetic conditions of landforms similar to premining conditions. Specifications for fill compaction are intended to lessen the chance of slope failure on steep terrain and thereby provide beneficial impacts to areas where mass-wasting scars would be highly visible.

Special precautions taken on alluvial valley floors will have an indirect beneficial impact by protecting the riparian vegetation that contributes to the visual qualities of valleys in the west.

4. Noise and Ground Vibration

a. Impacts of Mining

The major sources of mine noise are blasting, drilling, truck haulage within the mine and along roads, preparation plants, shovels, draglines, dozers, vent fans, and conveyor transfer points. If unregulated, noise generated at a mine could cause damage to buildings, hearing loss and serious disruption of the activities of humans, and disturbance of wildlife (Burns, 1969; Derzay, 1975; National Academy of Sciences, 1970; Siskind and others, 1976; Siskind, 1977; U.S. Air Force, 1956; Kryter and others, 1966).

For mine workers, the health aspects of noise from mine equipment are regulated by OSHA (Occupational Safety and Health Administration) in 29 CFR 1910 and by MSHA (Mine Safety and Health Administration) 30 CFR section 75 et seq. Noise emission standards for licensed motor carriers operating on primary and secondary roads are regulated by the Department of Transportation (49 CFR 325). The OSM regulations do not place restrictions on these aspects of noise sources but concentrate instead on the impact of noise and ground vibration on the public in surrounding areas due to blasting activities in surface coal mining operations.

Airblast is a compression wave that travels through the atmosphere in much the same way as a sound wave. It is caused when energy from an explosion is released directly into the atmosphere or by the movement of the ground surface after blasting (Miller, no date, pp. 10-15).

When air blast is audible to the human ear, it is called noise. When air blast creates low frequency energy and is inaudible, it is called concussion. Air blast is measured as an overpressure (air pressure above atmospheric pressure), either in pounds per square inch (psi) or in decibels (db).

Blasting also causes large amounts of energy to be released in the form of vibrations; that is, shock waves radiating from the site of the blast. It is this shock wave that fragments the rock near boreholes in which the explosives are detonated. As the shock waves travel or propagate, they stabilize and become seismic waves. These seismic waves displace the rock or soil particles of which the earth is composed, causing these particles to oscillate. Particle velocity defines "...how fast a particle or structure is moved by passing seismic waves, measured in inches (millimeters per second." (Grim and Hill, 1974, p. 94.) This is also what we mean by ground vibration.

b. Impacts of the Permanent Regulatory Program.

Regulations under the proposed program will reduce annoyance to humans and structural damage off the mine site through controlling the amplitude and ground vibration of blasting and the proximity of blasting to certain types of structures. The magnitude of these impacts is dependent upon site specific conditions, particularly the distance from mining operation and populations. A short-term adverse effect will result from warning signals which will startle some wildlife species.

c. Analysis of Major Regulations Affecting Noise and Ground Vibration

To the extent that the OSM regulations (Sections 816.61-816.68 and 817.61-817.68) limit the amplitude (maximum displacement) of airblast and ground vibrations resulting from blasting activities to levels less than those normally imposed by existing Federal and State regulations, these regulations will result in reduced human annoyance and reduced damage to structures. (Most States impose no such limits (U.S. Congress, H. Rept. 2, 1977)). Due to variations in population density, the regulations limiting noise and vibrations will affect the eastern and midwestern regions more than the western region.

The regulations place restrictions on maximum grades for all classes of roads. These restrictions are expected to result in some reduction of noise from trucks. (U.S. Department of Transportation, 1970). Short-term increases in noise may occur due to the increase in equipment activity and operations as a result of the requirements for topsoil handling, subsoil handling, grading or backfilling to approximate original contour, and construction of stream diversions and impoundments.

Airblast

Annoyance to humans due to mining-caused noise and building vibrations results from motions which cause rattling of dishes and other objects and movement of pictures. This level of noise can be expected to affect people moderately or strongly and cause some complaints (Nicolls and others, 1971; Siskind, 1977; Siskind and Summers, 1974; Siskind and Stachura, 1977; Miller, no date; U.S. Air Force, 1956).

The regulations set the upper limit of the noise from airblast at a structure at 135 db (decibels) measured on a blast monitor with a peak flat frequency response (L) from 0.1 to 200 Hz (hertz). If the lower frequency limit of the measuring system is 2 Hz or lower or 6 Hz or lower, the corresponding upper limits are 132 dB and 130 dB, respectively. According to Bureau of Mines (Siskind, 1978), this level should be slightly below the threshold of damage from the weakest structures normally found in the vicinity of a mining area. The probability of window breakage would be about one in five million, and center wall movement of structures would be in the range of 1.3 to 2.5 in/s (inches per second). This response would be about equivalent to that produced by ground motion of 1.0 in/s and little structural damage would be expected. However, as the levels of airblast rise, the probability of damage also rises (Siskind, 1978). There are, at present, few limits set on airblast resulting from surface coal mining activities (U.S. Congress, H. Rept. 2, 1977).

A substantial part of the blast energy occurs at frequencies below the audible limit. The structure, responding to the low frequency vibrations produces audible noises such as rattling of dishes. For this reason the impact of a blast is much more apparent inside the structure than outside (Burns, 1969; Kryter, 1970; Kryter and others, 1966).

These regulations control the amplitude of airblast to a level that would not be expected to produce any structural damage, and human response should be less than under existing regulations which allow higher levels. Reduced structural damage would generally be greater in the East and Midwest with more density of population than in the West where population densities are usually lower.

Ground Vibration

Maximum ground vibration at structures near the mine is limited by the regulations (816.65(i) and 817.65(i)) to peak particle velocity of 1.0 in/s.

Structural response to such vibration, at the maximum level allowed by OSM regulations, would be the same as that produced by airblast of 135 db (L, 0.1 hz) and would be expected to produce the same reaction from humans within the structure. Outside the structure, human reaction would probably be greater to airblast than to equivalent levels of ground motion. The impacts due to ground vibrations are generally the same as for equivalent airblast. (Siskind, 1977; Siskind and Stachura, 1977; Siskind and Summers, 1974; Nicholls and others, 1971; Miller, no date).

Proximity to Blasts

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Under the authority of Section 515(b)(15) of the Act, Sections 816.65(f)(i) and 817.65(f)(i) of the regulations provide that no blasting closer than 1,000 feet from a residence, school, hospital, church, or nursing facility be approved by the regulatory authority, based on a preblast survey or other appropriate investigation. Because the adverse effects of airblast, ground vibration, and flyrock are directly regulated by other parts of section 816.65 and 817.65, this provision provides no further direct beneficial impact in terms of airblast, flyrock, or ground motion. It will, however, require that the regulatory authority insure that ground vibrations standards and airblast noise levels will be complied with by close scrutiny of operations prior to approval of waivers under those sections. This is especially important in view of the provision of section 780.12 of the permit regulations which omits detailed blasting plans at the permit application stage. Instead, this will have to be done at the point of obtaining regulatory authority approval to waive the 1000-ft. distance restriction.

Warning Signals

MSHA, under 30 CFR Part 77, requires that ample warning be given of blasts. OSM regulations specify that the warning and all clear signals shall be audible 1/2 mile from the blast site. Because MSHA's regulations are designed to protect the miner and OSM's are primarily related to protecting the public off the mine site, the OSM regulation may result in warning signals that are louder or that may be audible over a greater area. This may annoy or otherwise impact adversely on wildlife, and humans in this extended area. Due to variation in population density, the effect would probably be greater in the eastern and midwestern areas than in the West and would continue throughout the life of the mining operations. On the other hand, this blasting regulation requires that such signals give warning of an impending blast and would therefore reduce the startling effect on humans sometimes produced by sudden noise and vibration generated by blasts.

5. Transportation

a. Impacts of Permanent Program Regulations

Coal is generally transported at or near the minesite by trucks. According to one report (U.S. Department of Agriculture, 1973, p.7) mining haul roads are usually under 7 miles in length, and many are less than a half mile. The report also states that 1,650 miles of abandoned mine haul roads constructed before 1965 have eroded so badly that they need repairs, and that the roads, especially in mountain areas, are responsible for much erosion. This is not to imply that all pre-Act mine roads are inadequate. However, Grim and Hill (1974, p.116) found that roads typically associated with contour mining operations and constructed prior to 1971 exhibit poor alignment, excessive grades, and insufficient strength and durability. Such construc tion can contribute to sediments in streams, diminish air quality in the immediate vicinity of unpaved roads due to dust, and form visual scars on the landscape. Abandoned sub-substandard roads used by the public could constitute safety hazards.

Mining can also affect transportation facilities off-site when excavation walls collapse, subsidence or slides occur, or fills or embankments fail, causing damage to public roads or to rail facilities.

The proposed regulations should reduce sedimentation of streams and fugitive dust due to erosion from unpaved roads; increased public safety when roads are approved for postmining land use activities; and decreased chances for slides due to inadequate stabilization of cuts and fills and inadequate drainage structures. These impacts are long term since they protect water and air quality and public safety during and after mining operations.

The overall national magnitude of this impact is the application of the regulations to planned surface production mining operations on an estimated 431,900 acres from 1980 through 1985 in the 24 coal-producing States (based on data estimated from U.S. Council on Environmental Quality and U.S. Environmental Protection Agency, 1977; and U.S. Bureau of Mines, 1971). Grim and Hill (1974) estimate that 10 percent of the total surface area disturbed by mining consists of roads. This would indicate that at least 40,000 to 45,000 acres would be affected by mine road construction activities between 1980 and 1985. All such road construction would be subject to the protective provisions of the permanent regulatory program.

As shown in table B7, four coal-producing States (table B8) have some degree of regulation specifically controlling the construction of roads or stream crossings. The 20 coal-producing States with no regulation for specifically controlling construction of roads or stream crossings have a planned production from 1980 through 1985 that would disturb an estimated 239,200 acres, of which 20,000 to 25,000 acres would be disturbed for roads. Under the permanent regulatory program, streams and other resources on 55 percent of the land estimated to be disturbed for roads associated with planned surface mining would be protected.

By restricting mining within 100 feet of public roads, by requiring measures to minimize the effects of subsistence on roads, and by requiring stability of fills, waste piles, and dams and dams, off-site transportation facilities will be protected from damage. The magnitude of this impact would be dependent on on site-specific conditions since not all mine operations use transportation facilities other than roads and not all are in close proximity to public roads.

Adverse impacts generated by the regulations would be the erosion, sedimentation, and fugitive dust from reclamation activities and the disturbance of more land than current practice would disturb to meet requirements for grades, embankments or cuts and fills which will last until reclamation has occurred in the use of all Class III roads and other roads not to be retained permanently. Where roads are approved for retention as part of the postmining land use activities, long-term loss of wildlife habitat will occur due to the provisions for grades or cuts and fills.

The road requirements will have greater impacts in the eastern area than in other parts of the Nation. This is primarily because there are a larger number of operations in the East (92 percent in 1976 according to table B5). In addition, the steep terrain in the East may require longer roads to meet requirements related to maximum grade in the regulations.

b. Analysis of Major Regulations Affecting Transportation

The principal effects of the proposed regulations will be on roads or near the minesite, although several offsite effects on transportation facilities may also occur. Secondary effects on transportation systems would occur only if there were production shifts. This possibility is discussed in Part B, Section III.B.8. The following is an analysis of the regulations contributing to the impacts of the program regulations.

(1) Roads On and Near the Minesite

Under the permanent regulatory program (Sections 816.150, 816.160, 816.170, 817.150, 817.160 and 817.170) major mine roads will be constructed to standards consistent with Federal and State standards for roads serving similar volumes of traffic, speed, and weight of vehicles. To accomplish this, the regulations provide for three classes of roads and establish design criteria to minimize their contributions to erosion and sedimentation, air and water pollution, and damage to public and private property. Criteria are established for grades, slope stability, drainage structures, and stream crossings.

Class I roads incorporate design and location features to provide maximum mobility, travel efficiency, and environmental protection in terms of planned vehicle volume, weight, and speed. Class II roads incorporate design and location features which permit long or short-term intermittent use for lower vehicle volume, weight, and speed. Class III roads are constructed for short-term uses, such as exploration; these roads must be removed and the area reclaimed within 6 months. In addition, the regulatory program (Sections 780.33, 780.77, 784.17 and 784.24) requires collecting and assessing information, and considering alternatives before approval of road design and location by the regulatory authority.

The regulations governing road construction will primarily protect water quality. The overall impacts on water quality in the mine locale will be the reduction in sedimentation and accidental discharges of oil, gas, or other vehicle-associated materials. The reader is referred to Part B, Section III.A.4.c(4) for a discussion of the impacts on water due to the road regulations and sedimentation, and to Part B, Section III.A.4.a(1)(a) for the effects of sedimentation on water quality and aquatic organism.

The potential environmental damage to streams caused by road construction and related increased sediment can be minimize by applying standard design, construction, maintenance, and abandonment practices (Grim and Hill, 1974, p.121; Mills and Clar, 1976, pp. 58-80). Sections 816.150-176 and 817.150-176 specify best technology currently available or stipulate certain standard engineering practices. As discussed in Part B, Section III.A.4.c(4)(b), one study made by the U.S. Environmental Protection Agency (1976b) in Appalachia indicates that 57,600 tons of sediment per square mile of haul roads were discharged annually from a mined watershed while only 28 tons were recorded from an unmined watershed. This is indicative of the amount of sedimentation that can be attributed to roads. The requirements to pave roads and to restore road beds after mining should minimize the sedimentation potential of mine roads. Depending on site conditions, the provisions restricting grade and requiring stability factors for embankments and cut-and-fill activities may require disturbance of more land for road construction than without those provisions. This would lead to a loss of additional wildlife habitat during the life of the road and short-term erosion, sedimentation, and fugitive dust during construction activities.

The regulations provide that roads may remain after mining if (1) they are part of the approved post-mining land use plan or they are needed for erosion control,and (2) maintenance of the road is assured. Roads will remain available for public use associated with the post-mining land use activities. All roads remaining after mining must be constructed to Class I or Class II road standards, which provides for safety, as discussed in Part B, Section III.B.6. Where roads are approved for retention, there will be a loss of wildlife habitat as a result of grade restrictions and stability factors. There will be an increase in public accessibility.

Roads not approved as part of the postmining land use are to be reclaimed in accordance with the reclamation plan, including revegetation. This will prevent long term impacts of erosion and sedimentation caused by unmaintained roads. Reclamation activities would cause erosion leading to short-term fugitive dust and sedimentation of streams.

The regulations specify certain standards for mine road location and protective erosion control devices (Sections 816.151, 816.161, 816.171 and 817.151, 817.161, 817.171). The implementation of these regulations will reduce the possibility of saturating and overloading unstable soils and slopes. Consequently, the possibility of sediment reaching water courses as a result of mass-wasting (slides) and erosion will be reduced. This will also reduce the possibility of damage to public and private property due to mass-wasting.

The road drainage regulations (Sections 816.153, 816.163, and 817.163) specifically require that most roads include ditches, culverts, and stream crossings. These structures must be adequate for the runoff from a 10-year 24 hour storm. Road ditches and cross drainage ditch relief culverts can reduce or eliminate the overland flow and/or channeling of water on road surfaces (U.S. Forest Service, 1977). This will minimize the change for erosion and sedimentation. Culverts at stream crossings will reduce the risk of embankment washouts.

Sections 816.154, 816.164 and 817.154, 817.164 require that non-toxic durable materials be used as surfacing materials. This requirement will reduce the amount of suspended solids entering water courses and assure that damage from toxic runoff does not occur to water, vegetation,or fish and wildlife resouces. Fugitive dust emission from unpaved roads will also be reduced.

The requirement that the mining operations plans include construction, maintenance, and use criteria (Sections 780.37 and 784.24) will allow the regulatory authority to know, prior to action on a permit application, where roads and supporting structures are to be located, and whether their design complies with the applicable performance standards which are established to minimize chances of sedimentation and fugitive dust due to road construction and use.

The permanent regulatory program will establish controls on other transportation facilities including railroad spurs, loops and sidings, transloading facilities and conveyors (Sections 816.180, 816.181, 817.180, 817.181). These facilities must be constructed using appropriate technology to minimize adverse environmental impacts. The implementation of these regulations will assure that local site conditions are considered in connection with selection and application of that technology.

(2) Off-Site Transportation Facilities

The implementation of special performance standards regulating offsite processing plants (Part 827) require that all transportation facilities incident to a processing plant must be constructed, maintained, and restored in accordance with applicable regulations. This will reduce sediment, and noise from transportation facilities associated with processing plants.

The regulations (Sections 761.12, 780.35, and 784.17) generally prohibit mining (both surface and underground) within 100 feet of the right-of-way of any public road. They also prohibit the relocation of public roads, except by approval of the responsible State, county or local official and the regulatory authority. These requirements will minimize road failures and washouts resulting from the removal or undermining of material near roads and hazards to the public from mining operations adjacent to thoroughfares. Such requirements will also control changes in waterflow, which, if left unchecked, could overburden the drainage system.

All underground mining operations require subsidence planning and control measures (Sections 784.19 and 817.122-817.126) to prevent, to the extent practicable, material damage to surface improvements such as roads or railroads. Together, the 100 foot restriction and subsidence control requirements will reduce damage to public roads and railroads in the vicinity of underground mines due to subsidence. Subsidence can cause depressions, cracks and cave-ins in road and railroad beds. In low areas, the change in moisture conditions caused by subsidence can result in frost heaving of subgrades and road surfaces.

6. Safety

a. Impacts of the Permanent Program Regulations

The overall nationwide impacts on safety would be that the general public will receive some protection from dangers associated with surface and underground mining operations. This protection would be to persons who may enter the permit area during mining operations or after cessation of operations. The protection would also apply to persons and public and private property on lands outside the permit area that might be affected by blasting operations, use of roads, including those retained for postmining land use purposes, and to persons and property downstream of waterways affected by the mining operations, who will be protected from dam failures, slides, and water pollution. The magnitude of this impact is dependent on the location of individual mines in relationship to human settlement and waterways. The protection offered by the proposed regulations is consistent with that provided for mine workers under regulations administered by the Mine Safety and Health Administration.

According to U.S. Bureau of Mines (1971), nine states with coal reserves regulate blasting in surface coal mining operations. Of those States, only four require "adequate advance written notice of the proposed blasting schedule to local governments and residents." Four limit the size, timing, and frequency of the blasts, as determined by the physical condition of the site, to prevent personal injury or damage to property. Under the regulatory program, all States with coal mining operations will provide at least the same minimal level of protection required by the regulations.

b. Analysis of Major Regulations in the Program

The regulation of safety of mine personnel falls under the responsibility of Mine Safety and Health Administration, Department of Labor (30 CFR, Section 75 et seq.) under the Federal Coal Mine Health and Safety Act of 1969 (P.L. 91-173, as amended by P.L. 95-164). However, protection of the public and wildlife, in general, and of structures and facilities is broadly afforded under Title V of the Surface Mining Control and Reclamation Act of 1977, particularly Sections 515 and 516.

The following discussion will analyze the affects which the most relevant permanent regulations may have on the safety of the public, property, and wildlife.

Blasting (Sections 816.61-816.68 and 817.61-817.68)

Mine Safety and Health Administration regulations regarding safety impacts provide protection to human safety and mine personnel in the immediate area of mine operations. The major differences in the preferred alternative are the concern for public safety in general, including outside the mine site, in the specification of maximum peak particle velocity ground vibration noise, air blast levels, and flyrock restrictions due to blasting which is not specifically regulated by MSHA. Also, the preferred alternative requires that preblast and all clear signals be audible within one-half mile of the blast site, while MSHA requires only that a general "ample" warning be provided. The OSM regulations have been coordinated with MSHA, so they should complement the MSHA regulations.

Blasting at surface areas causes safety problems associated with "flyrock" and "overshooting" of the blast area. "Flyrock" is material ejected by a blast which either travels through the air or travels along the ground surface. "Overshooting" is the use of more explosive than is necessary to accomplish the blast objective. Overshooting causes excess flyrock which could harm persons or damage property (Ash, 1968; Barner, 1977; Gustafsson, 1973; Laadegard and others, 1975). Blasting can also cause damage to property from air or ground vibrations (Siskind, 1977; Siskind and Stachura, 1977; Siskind and Summers, 1974; Nicolls and others, 1971; Miller, no date).

The design of a coal mine blast is dependent on the spacing of the charges, the time delay between charges, blasting agent characteristics, the overburden structural characteristics, and the size of the broken material required (Ash, 1968, pp. 373-396). Safety hazards would be minimized by controlled blasting techniques under Sections 816.65 and 817.65 of the regulations. However, strict control will not completely eliminate flyrock problems because of the varying characteristics of the overburden. Those regulations provide restrictions on flyrock in that flyrock cannot be cast more than half the distance to the nearest dwelling or other occupied structure and in no case beyond the line of property owned or leased by the permittee or beyond the area of regulated access.

Preblasting surveys, if required (Section 816.62 and 817.62) would be performed to aid the blasters in determining the adequacy of the blast design. The correct blasting parameters to minimize overloading of blast holes for a specific site have usually been determined by the trial and error method.

The overloading of blast holes can pose safety problems to structures and humans living or located near or down slope from mining operations. Structural damage to nearby buildings, homes and other features may occur as a result of overloading blast holes. This damage is created by excessive vibrations from air blasts as discussed under Part B, Section III.B.4, "Noise," and from shockwave vibrations transmitted through the ground (Siskind, 1977; Siskind and others, 1976, Tynan, 1973; Miller, no date; Nicholls and others, 1971).

The proposed regulations specifically require that buffer zones, and time delays be used during operations. Buffer zones would be established to prevent persons from entering the immediate blasting area and to provide safe distances between structures and homes and the blasting area. Use of time delays in blasting would result in control of the peak amplitude of ground vibration and the impact on the surrounding area since reducing charge weight by use of delays will reduce vibration levels (Nicholls and others, 1971). Operators are required under Sections 816.11 and 817.11 to post signs and markers at all entrances to the mining plan area to notify the public and other persons of the use of explosives. The regulations require operators to conduct pre-blast surveys upon request of persons located within one-half mile of the permit area. Preblasting surveys, when required, should have a beneficial impact by indicating preexisting conditions that may require modified blasting technniques.

The regulations (Sections 816.65 and 817.65) for limiting ground motion peak particle velocity to one inch per second will provide some additional protection to structures. Available information shows that damage to property may result from blasting vibrations below the industry standard of two inches per second in use prior to the Act. In some cases, a limit of one inch per second may not absolutely protect structures from damage. Integration of data from Dvorak (1962) yields 32 points of damage below two inches per second. Thirteen of those points are below one inch per second. Gustafson (1973), using information developed from 100,000 observations, developed a recommended safe level for peak particle velocity as low as 0.7 inch per second, depending on geologic conditions, and a threshhold of damage as low as 1.2 inches per second. Tynan (1973) recommends a peak particle velocity of 0.75 inch per second.

Prior to the Act, only one State (Pennsylvania) had adopted a coal mine blast limit for peak particle velocity below two inches per second (25 Pa. Code). Thus, OSM's establishment of the one inch per second standard should have a widespread national impact in limiting property damage from blasting.

Casing and Sealing

Open exploration holes, boreholes, adits, slopes, shafts and other underground openings created by both surface and underground mining activities pose safety hazards to persons and animals. First, persons and animals can inadvertently fall into underground openings or enter horizontal openings to areas which may have bad roof conditions and / or insufficient air. The hazard of improperly sealed underground openings is particularly severe in the eastern States because of the long history of underground mining and the frequent expansion of communities over past and forgotten mined areas (Doyle, 1976, pp. 17-63; Appalachian Regional Commission and the Pennsylvania Department of Environmental Resources, 1975b). There is no major study on the effects of improperly sealed underground openings in the West, mostly due to the smaller amount of areas affected by mining in the past in the West, and the lower density of human population. With increased future mining in the West, the same hazards would be expected.

Through proper sealing or management of boreholes, shafts and other underground openings under Sections 816.13-816.15, 817.13-817.15, safety hazards will be reduced because there will be limited access to the openings. Those openings which are temporarily inactive must be maintained to prevent the accidental entry of humans and animals (Sections 816.14, 817.14, 816.131, 817.131). Upon permanent abandonment, holes, wells and other openings must be properly sealed, plugged or otherwise properly managed to prevent unwarranted access (Sections 815.15(h) (coal exploration); 816.15; 817.15; 817.51; 816.53; 817.53). These regulations will, therefore, help protect the safety of humans and animals nationwide.

Protection of Underground Mines

The location of active or abandoned underground mines near surface mines creates problems of inundation (one mine collapsing into or physically connecting in an unplanned way with the other mine) of the mines, ground stability, disruption of air flow patterns and exposure of unprotected mine openings. The asphyxiation of underground miners can result from the accidental ignition of the underground coal seam resulting from, for example, a coal processing waste fire in surface mined coal deposits. (McNay, 1971).

The regulations specify that a barrier can be maintained between surface and underground mines. Surface mining may not occur within 500 feet of an underground mine unless there is a finding by the regulatory authority, with the concurrence of mine safety officials, that the health and safety of miners would be assured (Section 816.79).

Roads and Associated Structures

Improperly designed and maintained access and haul roads have created situations which cause damage to mine equipment and harm to mine personnel and the general public who use the roads after mining. Primary problems include equipment failure to negotiate long steep grades, sharp curves, poorly maintained roads, road bank instability or poor visibility (U.S. Department of Agriculture, 1977; U.S. Bureau of Mines, 1977b; U.S. Bureau of Mines, 1976). Upon abandonment of mining operations, these roads often remain for use by the general public including hunters, sightseers, and persons looking for areas to discard unwanted wastes. Without maintenance, the condition of the road continues to deteriorate and the safety hazard increases. Depending upon the steepness of the terrain and the extent to which the road is properly located, failure of road embankments may pose safety hazards to structures, residential and commercial properties, public highways and roads, and people located below and road users (Weigle, 1965).

Under Sections 816.150-816.176 and 817.150-817.176, roads and their associated structures, including culverts and bridges, are to be engineering based on volume, speed and weight of vehicles to provide for proper grade alignment and design, compaction requirements, slope limitations and embankment safety factors. These specific requirements enhance stability to preclude road failures which may result in accidents and damage to adjacent properties. The regulations further require that roadbeds be restored prior to abandonment of the mine area unless specifically approved and provided for in the postmining land use. Any road which will remain in an abandoned area must be constructed to insure its long-term structural competence and stability. Normally this will be achieved because the road will provide access to an area reclaimed for a higher land use and continued road maintenance will be required.

Slides and Other Damage

The regulations (Section 816.99 and Part 824) require that a barrier be retained around the bench rim of contour mines to prevent slides and erosion. In addition, the regulations (816.99 and 817.99) stipulate that imminent slide conditions must be brought to the attention of the regulatory authority and remedial action be undertaken to alleviate the hazardous condition. The regulations for retaining a barrier around mines and spoil disposal should minimize the chance of slides in regions of steep slope or regions where geologic and climatologic conditions are conducive to mass wasting and should reduce hazards to public safety and to property.

Spoil Disposal

Improper placement of spoil on the outslope of mine areas has caused uncontrolled rolling and tumbling of large boulders down hillsides, resulting in damage to structures and death or injury to humans. These instability problems may be attributed partly to uncontrolled dumping of spoil on steep slopes, absence of effort to compact spoils and saturation of spoil with ground and surface waters. The impacts of poorly constructed spoil disposal sites on public safety include damage to structures, including residential and commercial buildings and roads, as well as injury to the users of those facilities. The construction of structurally sound spoil disposal sites can improve the safety conditions associated with the disposal of spoil and the backfilling and grading of lands disturbed by coal mining (Huang, 1978; U.S. Bureau of Mines, 1975).

The regulations (Sections 816.71-816.73, and 817.71-817.73) establish engineering standards to ensure structural stability of fills constructed of excess spoil. The regulations also require drainage facilities, whether under, through, or around the placed spoil, to divert water flow from disposal sites to prevent saturation, and thus minimize the chances of slides. These regulations will reduce safety hazards due to slides that can damage nearby structures, injure inhabitants, and/or destroy environmental resources.

Steep Slopes

Unstable spoil outslopes and uncontrolled movement of large rock boulders down steep slopes have long been safety hazards to residential and commercial structures, wildlife and the general public. (H. Rept. 95-218, 1977). Thousands of miles of outslope failure (U.S. Department of Interior, 1967) have damaged or destroyed structures and caused injury to humans.

The regulations (Part 826) prohibit the placement of spoil below the coal outcrop of the lowest seam being mined. An exception is provided for approved spoil disposal sites such as head-of-hollow or valley fills and for construction of road embankments. Spoil must be retained or replaced on the mine bench to backfill the mine area to approximate original contour, thus eliminating the exposed highwall. Backfilled spoil must be compacted to achieve a minimum factor of safety which will reduce the possibility of slides (Meyerhof, 1970). The impact will be most strongly felt in the East because of the topography of that region.

Subsidence Control

Land subsidence caused by past underground coal mining activities has caused damage to and destruction of residences and other structures, rupture of underground gas, sewer and powerlines, and creation of voids and cavities beneath roads and other transport facilities (Appalachian Regional Commission and the Pennsylvania Department of Environmental Resources, 1976; Dunrud and Osterwald, 1978; Voight and Pariseau, 1970; Brauner, 1973; Bureau of Mines, 1977c). Subsidence can also trigger landslides. Where mining is conducted near the surface on thick seams or steeply dipping seams, actual cave-ins and open fissures can occur at the surface.

The regulations (Sections 817.121-817.128) will reduce potential safety hazards associated with subsidence resulting from underground mining described above. For example, the regulations prohibit mining activities under private dwellings, public facilities, bridges, roads, utility corriders, water resources, and other developed or natural features, unless the mining activities are planned to minimize subsidence damage to the overlying or adjacent surface. These requirements should minimize those adverse effects on a local basis, particularly in the East, where mining is often near developed areas.

Measures to control subsidence include leaving coal in place, design of underground openings, and return of coal processing waste to the mined out area after mining. In addition, Sections 817.121, 817.122, 817.124, and 817.126 will protect the rights of surface owners by assuring the restoration and rehabilitation of the land and structures materially damaged by subsidence.

Waste Handling

Depending upon their size and proximity to populated areas, failures of sedimentation ponds, water impoundments or coal processing waste dams and embankments cause varying degrees of distruction and harm to humans and animals. The Buffalo Creek disaster in 1972 is well documented (U.S. Department of Interior, 1973; West Virginia Governor's Ad Hoc Committee of Inquiry, 1972). Failures of less magnitude but which have over the past years resulted in injury, loss of life, destruction of structures and property have also been identified (McNay, 1971).

The regulations (Sections 816.81-816.93, 817.81-817.93) minimize the potential for failures of structures and resulting injury, loss of life, and destruction of property due to floods and slides that can occur when structures fail. Geotechnical and engineering design standards are established (Sections 817.91-817.93) according to the height of the embankment or the volume of material involved. Sound engineering principles and practices in foundation design, construction, and stability of the structure, design of discharge, and overflow structures and site abandonment can minimize safety hazards (Bishop, 1973; National Coal Board, 1972; U.S. Bureau of Reclamation, 1973; U.S. Department of the Interior, 1976).

7. State and Local Government

a. Impacts of the Regulatory Program

Each State in which there is currently coal surface mining on private lands has some existing form of State regulatory program. These programs range from small programs in States with a small number of coal surface mining operations to large programs in States with considerable mining. Based on statistics submitted to OSM with initial grant applications, existing State agencies range in size from several administrators to more than 130 people. These existing programs also vary in degree of authority and control over surface coal mining and the degree of program sophistication. Some programs already exert some control over the areas of responsibility that are required under the Act. Some programs already have the expertise and experience to recognize and control mining as specified in these permanent regulations. For others, these requirements represent new responsibilities. These regulations establishing the requirements for a State program under SMCRA will cause changes to each existing program. Some programs will be required to expand and change drastically and others will undergo less significant change. Table B7 provides specific information on existing State surface mine programs.

The change and expansion that an existing State program must undergo depends directly on the type of operations that are presently regulated and on the current level of control as compared to the requirements for a State program contained in OSM's regulations. Most States must expand current authority to include responsibility over coal related operations other than actual surface mining. The surface effects of deep mining and coal processing and preparation operations are examples of operations not presently controlled in most States but which must be controlled pursuant to State programs under these regulations. Initiating control over new operations can be difficult and time consuming.

In addition to the different types of operations that must be controlled, most States must develop new or revised processes and systems. Based on table B7, only three States currently have a system to designate lands unsuitable for mining and such a system must be developed and included in each State program. Other systems and procedures that must be developed in many States include a system of public participation, a method of data collection, procedures to assess civil penalties and to issue cease and desist orders. These regulations require States to establish programs to assist small operators with certain required laboratory costs. The Office knows of no States that currently have such programs. These regulations also require State agencies to coordinate State programs with other State and Federal agencies and to comply with other Federal laws. The specific needs and effects of each of these requirements are explained below. Other requirements of these regulations will only cause the State agency to upgrade an existing system or procedure. Most States already have systems for permitting, bonding, inspection, and enforcement. However, these regulations establish detailed requirements in these areas and some change is expected in all States.

b. Analysis of Major Regulations in the Program

As part of the State program submission, a State must first obtain the necessary authority for expanded areas of responsibility and types of control. Full authority must be obtained through enacted State legislation and promulgated regulations. This authority must be in effect shortly after program submission and prior to the time in which OSM must make a decision approving or disapproving the program. Drafting proposed legislation and working it through the legislative process into will involve considerable effort on the part of the State agency.

Development and submission of State programs will in itself require a considerable effort on the part of the State regulatory agency. The regulations establish content requirements for a State program submission. The State must describe program needs using data and statistics for current and projected surface coal mining. The submission must demonstrate that proposed program systems and procedures will be adequate to meet the requirements of the Act and the regulations.

To allow a degree of flexibility to States in developing their State programs, these regulations allow States to propose alternative approaches to provisions required by the regulations. Depending upon specific local needs or environmental conditions, a State may wish to propose certain alternative provisions to the Secretary's regulations. Proposals of alternative regulations will entail considerable effort on the State's part in compiling data and analysis demonstrating that the proposed alternatives meet the requirements of the Secretary's regulations. In many cases there will not be sufficient time to gather and develop the necessary data before program submission. In that case the State may have to defer applying for approval of the alternative standard until some time after its program has been approved.

The larger State programs under these regulations will probably involve computerization of certain systems and procedures. Permitting and enforcement are procedures that may be computerized. The data base and inventory system of coal lands under the program for designating lands unsuitable for mining may involve computerization in most States including those with smaller programs. Development of these procedures involving automated data collection will probably require outside consulting assistance and will therefore be more costly. The time and costs of such development will vary from State to State depending on the status of the existing program. The Office estimates that from 3 to 5 man years of time and effort will be required for a State to develop and submit a program meeting the requirements of these regulations. This estimate of time includes development of the necessary systems and procedures and compiling the required information into a format that can be presented as a program submission. A Federal program development grant is available to cover up to 80 percent of these costs. However, some States have indicated that they will cover development costs on their own since taking the grant means that future program operating grants will then be reduced.

Implementation and operation of approved State programs will require States to increase their personnel needs considerably. The performance standards and permitting provisions established by these regulations will require the State to review additional permit application information and become responsible for increased technical judgment. New expertise must be added in many States to cover increased areas of program responsibility, including the areas of soil science, hydrology, agriculture, plant ecology, blasting, engineering, land use, and chemistry. In order to meet the inspection frequency required by these regulations (which are higher than that currently required in most States), the States must hire more inspectors.

These regulations will require States to have personnel experienced in mining and reclamation matters to determine steps necessary to abate violations and imminent hazards. The Act and regulations require the regulatory authority to determine the steps necessary to abate violations in the most expeditious manner possible and include steps in an order to the violating company. In response to these provisions many States are likely to be required to hire new personnel with experience in mining and reclamation. These personnel requirements will increase program costs accordingly. The States will also have to compete with industry and the Federal Government who are also hiring inspectors and personnel with necessary technical and professional expertise. Many States have reported to OSM that the hiring of additional professional and technical personnel during the interim program is difficult.

Required program expansion and the hiring of new personnel may possibly result in temporary problems. New people who may lack specific training might apply the requirements in an inconsistent fashion. However, in the long run, increasing the State agency's professional and technical expertise over surface mining and reclamation will give the State the ability to solve mining related problems without the need to call in outside assistance from officials of the Federal Government, or other outside assistance.

Most States will also be required to increase public participation in the ongoing administration and enforcement of the State program. These regulations also require that the State provide for public input into the development of the State program itself. Once approved, the programs must provide for public involvement in the permitting process; inspecting, including prompt response to citizen complaints; designating lands unsuitable for mining and the process of bond release. Procedures must be established for public hearings for permit applications and in response to petitions regarding designation of lands unsuitable for mining.

State programs must include a process to respond to petitions to designate lands unsuitable for mining. Eventually the State must develop a data base and inventory system which will permit evaluation of whether reclamation is feasible or whether the impacts of mining will significantly impact certain surrounding resources. Development of the required data base and inventory system is not necessary until after program approval. Development and administration of the procedure will require several types of professional disciplines including land use planners, engineers, and persons familiar with valuable natural resources. Operation of the procedure, including development of the data base and inventory system and the actual process of responding to petitions, will involve coordination with other State officials and county or local governments where land use plans or programs are involved.

Responding to petitions to designate lands unsuitable will require that the State have personnel available that can determine or project feasibility of mining and reclamation and the effects of mining on surrounding resources. It is not known at this time what effort will be required in order that a State be capable of responding to petitions immediately following program approval. The impact of these requirements on the State will depend on the general feasibility of reclamation in a State along with the number and types of certain resources and their proximity to mining operations. The impact will also depend on the interest in the State in designating lands unsuitable for mining.

In addition to increased technical needs, most States must make considerable changes in enforcement capabilities. State agancies will be required to assess civil penalties and issue cease and desist orders to coal surface mine operators. Many of the existing State programs do not include these capabilities.

Another provision which many States must develop and include in a State program is a Small Operator's Assistance Program. Funding must be made available to pay for certain required laboratory analysis for smaller operators. This process will involve approval of qualified private laboratories by the State before the work can be carried out.

Program approval will be dependent on States being able to administer required conflict of interest laws. This requirement is new and when enforced may cause friction between management and staff in some States. Program approval will also be dependent on the State's ability to comply with other Federal laws as required by these State program regulations. Compliance with some of the other Federal laws will be new to some States.

Implementation of State programs will require additional funding to cover increased costs in administering and enforcing the State program established in these regulations. Twenty one of the twenty five States with surface coal mining on private lands adopted the initial regulatory program and received initial program grants from the Office of Surface Mining, these initial program grants cover 100 percent of the increased program costs. As stated above program development grants have been available to cover up to 80 percent of the costs of developing a program. Following approval of a State program under these regulations, Federal assistance is available to cover up to 80 percent of the first year, 60 percent of the second year and 50 percent thereafter of the total program costs. If a program development grant is taken, then program funding is reduced to 60 percent for the first year and 50 percent for the second year and thereafter. Of course, these program funding percentages are upper limits prescribed under the Act and regulations. Actual funding will depend on congressional appropriations.

Local governments will be affected by the permanent program regulations depending on the nature of each State regulatory program. Some States specifically require permit review at the county level. In other areas, local governments regulate mining through zoning laws. Local governments will need to develop increased expertise in many areas connected with mining if they are to continue to participate in the regulatory process.

In some States, local government has not played an important role in the regulatory process. The expanded opportunity afforded local governments under the new regulations will be most meaningful in areas where there is expertise connected with mining. Local governments who chose to participate will compete with the industry, the States and the Federal Government for personnel and expertise in mining and mineral technology.

Under the designation of lands unsuitable for mining regulations, local governments will have the opportunity to play an important role in determining which areas will be available for mining. Local governments may initiate petitions to have areas designated as unsuitable for mining For most local government, these regulations will provide new ways to protect local areas from mining where mining would be in conflict with other uses of the land or would pose hazards to local residents.

8. Socioeconomic Impacts

Because of the difficulty of analyzing the socioeconomic impacts of OSM's permanent program quantitatively at this programmatic level, they are generally discussed only in qualitative terms. Some of the coal supply and industry projections are based on OSM's September, 1978 Draft Regulatory Analysis (RA) data. The RA provides an analysis of the economic consequences of the major alternatives for significant regulations considered by OSM in drafting its permanent regulations. The scope of the RA is based directly on the requirements of Executive Order 12044 (43 FR 12661; March 23, 1978). The final RA will be available before a Departmental decision on OSM's permanent program is made and will include additional analysis of the economic consequences of the regulations.

a. Community Identity and Social Effects

While OSM's regulations will produce negligible cumulative impacts on the community and social resources of the Nation as a whole, they will have socioeconomic impacts on both community identities and social patterns in major coal producing areas. Attitudes, values and lifestyles of persons living near coal fields may be affected by the regulations which significantly mitigate the environmental damage currently created by coal mining.

In Appalachia, for example, the inhabitants of mountain valleys and other areas where steep-slope mining occurs may experience benefits from OSM's regulations relating to the added protection against slides, flooding, controls on blasting and increased safety of valley fills and diversion structures. Community stability should be enhanced because of these long-term environmental benefits. People in these areas should experience increased psychological well-being and peace-of-mind from the added protection from these threats to their health and safety. The public safety benefits are discussed in greater detail in Section III, B.6.

Long-term productivity and use of land will be protected or restored because the regulations require restoration of land to a condition capable of supporting the premining use of the land or a higher or better use. Premining productivity and use of the land will not be sacrificed and some land will be reclaimed to a higher land use in recognition of social or economic needs in a region.

Residential areas and community facilities, such as schools, churches and parks, will be protected by the environment safeguards represented in OSM's regulations.

In the West and Midwest, for example, the regulations provide protection for the lifestyles associated with farming, ranching, and grazing through special requirements which protect prime farmlands and alluvial valley floors. Opportunities for hunting, fishing, and other recreational activities may be increased in areas where mining is prohibited and in areas where mining is permitted and the land is restored to the premining use, or a higher or better use. In the areas where these opportunities are limited, they may be increased through changes in premining land use to a postmining land use such as recreation facilities or wildlife habitat to provide for recreational hunting and fishing or or other wildlife oriented activities.

Important aspects of community and social resources will also be protected through the provisions of the regulations for designating areas unsuitable for surface coal mining. These procedures will allow community and other groups to protect areas of special local importance such as historical landmarks and parks, thereby promoting public involvement in land management and stewardship of valuable environmental resources. The designation provisions may have adverse impacts on persons owning coal resources where mining can be prohibited. These designations can be terminated if mining is subsequently determined to be acceptable. Exemptions for existing operations and persons holding valid existing rights are provided. See Part B, Section III.B.2 for a discussion of lands designated by Congress as unsuitable for surface mining in the Act.

Availability of information is necessary for effective public participation. OSM's regulations provide that all information connected with the regulatory process, with limited exceptions, must be made available to the public. In general, under the regulations (Section 700.14), all members of the public have an opportunity to become well-informed concerning decisions which affect how and where coal resources are mined. Furthermore, the regulations require that OSM and State regulatory authorities respond to citizen complaints concerning mining operators who may be violating the regulations. The regulatory authority must make requested information available to the public, must respond to citizens' request for mine-site inspection and blasting surveys, and must consider petitions to have areas designated unsuitable for coal mining. Other examples of opportunities for community involvement in OSM's program which assure consideration of local social and economic needs include the requirements for the designation of lands unsuitable process (Subchapter F); permit approval process (Subchapter G); and approval of alternative postmining land use (Sections 816.111 and 817.111).

b. Public Services

Municipal water supplies are protected in various ways by the regulations. There are special provisions in the regulations which restrict long-term degradation in the quality of water available for municipal water supply systems by requiring restoration of the recharge capacity of aquifers. Special provisions also help protect against subsidence which may occur under municipal water supply reservoirs. By limiting the discharge of the pollutants such as acid, iron, suspended solids and manganese, the regulations further protect municipal water supplies.

In response to the increased demand for people trained to meet the needs of operators and government in complying with these regulations, educational institutions may offer additional instruction in the many disciplines connected with coal mining. Blasting, revegetation, mining and mineral engineering, dam and impoundment design and safety, civil engineering, geology, and hydrology are skills which command a relatively higher rate of pay and usually provide year-round employment. When resident populations are trained to fill these job needs, a beneficial increase in socioeconomic stability will occur.

c. Coal Recovery

In perspective of the amount of coal available, the effect of the preferred alternative on the Nation's independent energy supplies is not likely to be significant. As stated in Part B, Section II.A.4, it would take approximately 350 years to consume 90 percent of the Nation's coal reserves (Hubbard, 1969; Yannacone, 1974). As shown in table B2, there are an estimated 438.3 billion tons of coal reserves in the United States.

Regulations which implement Section 522 of the Act, relating to Congressional designation of lands unsuitable for all or certain types of coal mining, will result in permanent or, at best, long term loss of the coal resources located in certain areas (Part 761). These areas include, subject to certain exceptions, federally protected areas (such as the National Park System, the National Wilderness Preservation System, and the National Forests) and publicly owned parks and places included on or eligible for inclusion on the National Register of Historic Places. Surface mining is prohibited, with certain exceptions which may or may not prove to be narrow when implemented by regulatory authorities, in the areas within 100 feet of public roads, and within 300 feet of occupied dwellings. OSM is unable to estimate the amount of coal reserves lost as a result of the congressional designations. However, it should be noted that mining in Federal areas is already prohibited by some existing federal statutes and regulations.

A loss of coal resources may result from other components of the preferred alternative. For example, coal will not be mined where the regulatory authority determines that reclamation is not technologically and economically feasible. Coal underlying lands which are designated as unsuitable through the petition process may also be lost. However, these losses are temporary since designations by petition may be terminated, and because technological advances and market circumstances may provide the necessary knowledge and economic incentive to accomplish reclamation where it could not be previously done. It is not possible to predict the amounts of coal which could be lost because reclamation is not technologically and economically feasible because these are site specific determinations. Losses due to designation as unsuitable cannot be predicted because they are dependent on petitions from the public.

Other temporary deferrals of coal recovery may result from the performance standards related to subsidence control, steep slope mining, prime farmlands, alluvial valley floors, stream buffer zones, auger mining, and underground mining in areas producing acid or iron discharges. The effects of these performance standards on future coal recovery is dependent on the technological innovations and market prices for coal and are discussed in Section B III A with respect to the resources they are designed to protect.

In general, if the coal resource not recovered is sufficiently large, it may be possible in the future, with more innovative technology and higher prices of coal, to recover the coal. Since future mine plans are not known and evaluation of the plans under the performance standards cannot be made until the plans are received, it is not possible to estimate the amount of coal that would not be recovered due to the permit process and performance standards. As discussed above, the duration would be dependent on the size and location of the coal block left and the economics and technology of future coal mining.

d. Employment

One of the impacts of the regulations would be increased employment as a result of the increased demand for professionally trained people such as mining engineers, hydrologists, geologists, agronomists, soil scientists, air quality experts, biologists, historians, and archeologists. These persons may find employment opportunities as consultants (working for university research organizations or private consulting firms), as employees of Federal or State regulatory authorities, or as employees of coal mining concerns. The demand for these types of professionals will result from the regulatory requirements for baseline data, mine plan preparation, and for monitoring of enviornmental conditions during mining and reclamation.

Because the greatest number of mines are in the East, the demand for additional trained professionals will be correspondingly higher than demands in other regions. There could also be an increase in additional mine laborers employed because of new activities and operations necessary to comply with the regulations. Additional administrative and support personnel in State, local, and Federal governments will be required as a result of the increased responsibilities of the proposed regulatary program. (See discussion of State and Local Government, Part B, Section III.B.7.)

Many smaller operators do not employ the professional personnel needed for compliance with the regulations. This was anticipated by the Congress in Sections 507(b)(11), 507(c) and 401(b)(1) of the Act. Assistance will be available to such operators for the determination of hydrologic consequences and analysis of test borings or case sampling under the Small Operator Assistance Program (30 CRF 795, December 13, 1977). To the extent that additional professional assistance is required, the smaller operators may turn to professional consulting firms, form mine planning cooperatives, sell or merge with other firms or cease operating. Recognizing this potential for adverse impacts, OSM has initiated work with other agencies to develop additional assistance programs. In response, the Tennessee Valley Authority has announced special programs to purchase from and provide technical assistance to small operators. A contract for the development of technical guides has been executed through the Office of Water Resources Research and Technology with the University of Delaware. Discussions are ongoing with the Department of Energy, the Bureau of Mines, and the U.S. Geological Survey to develop other forms of assistance.

The demand for professional and skilled labor services may create temporary shortages in specific labor categories. These temporary shortages could result in short-term delays for both new mines and existing operations.

Some local areas will experience increased demands for labor as operators comply with the regulations. However, in these areas where the regulations cause temporary mine closures, localized unemployment rates could increase in the short run until affected labor can shift to other industries or other mine operations. This conclusion is based on information developed for the Draft Regulatory Analysis on projected regional coal production rates in 1985 using the National Coal Model developed for the Department of Energy.

e. Industry Adjustments

Implementation of the regulatory program will cause an increase in mine production costs in all coal producing regions of the country as reported in the Draft Regulatory Analysis.

The ability of mine operators to adjust their production process will determine the magnitude of this increase. Some of these new production costs will result in higher market price for coal. Industry adjustment to the regulatory program and coal price increases are discussed in more detail in the Draft Regulatory Analysis. The reader is referred to that document.

The incremental increase in production cost will vary from State to State depending upon site-specific characteristics and the degree of existing regulations, see Table B7 (Imhoff), the increased costs may be small; where State laws and regulations are less stringent than the proposed regulations, the increased costs will be higher. The Draft Regulatory Analysis reported that incremental cost increases will be highest in the Eastern region because of current levels of State regulation and site-specific conditions.

Availability of money at acceptable interest rates for capital expenditures is currently a problem common to all industries. If small mine operators lack readily available capital, closures and cancellations of proposed openings may occur. Small operators may have the most difficulty obtaining the sufficient capital to comply with the requirements of the permanent program regulations because of the relatively smaller scale of their operations to cover fixed costs. Operators in States with mining laws and regulations comparable to the proposed regulations would not face as many new capital allocation decisions. See also the discussion of personnel requirements under paragraph (d).

Some marginal mining operations, both big and small, will not be able to adjust sufficiently to maintain production costs at or below market coal prices. In such instances, the mines would close. However, these mine closings will not result in decreased regional production as demonstrated from analysis based on the Department of Energy's (DOE) National Coal Model conducted by OSM and the Council of Economic Advisors (CEA). Mine operators will likely shift to new mine sites rather than drop-out of the market (Memorandum between DOE, CEA, and ICF, November 21, 1978, and DOE and ICF, December 12, 1978, in OSM's Administrative Record).

The detailed permitting requirements and participation procedures will require more planning by mine operators and may add more time to the development process for opening new mines. Should the added time for development cause widespread delays, industry surge capacity would be strained in meeting market demands. "Surge capacity" is the coal industry's ability to increase production in a very short time. If the industry must rely on surge capacity to meet demands, coal prices would rise in the short-run.

Cost increases are not likely to be large enough, in themselves, to induce a shift to other energy sources such as oil-fired and nuclear power plants which are the next largest producers of electricity. Costs of oil, nuclear, and other energy sources are also rising. As reported in the Draft Regulatory Analysis, the demand for coal for electric power generation is expected to continue to increase. Also, there is no present substitute for coal in steel-making which is the second largest coal consuming industry.

Additional costs and growth may also be incurred by Federal and State governments as a result of increased funds and personnel necessary to carry out responsibilities under the proposed regulations. The impacts on State governments are discussed in Part B, Section III, B.7.

f. Shifts in Production

There is no evidence that inter-regional shifts in coal production would occur as a result of the proposed regulations. For example, a study of the impact of back-to-contour reclamation of surface coal mines in Appalachia prepared by Bohm and others (1976, pages 48-52) indicates that shifts in production would be minor. The Draft Regulatory Analysis supports the findings of these studies. Major regional shifts in production are believed to be unlikely because they would require significant increases in transportation costs. It is unlikely that differential increased costs of the regulatory program between regions would exceed the transportation cost increases; therefore, regional shifts are not likely to occur (ICF, 1977).

According to the Draft Regulatory Analysis, intra-regional shifts between surface mine sites and from surface to underground techiques may occur as regions adjust to maintain their share of coal production. Site specific conditions such as topography and geology will determine if such shifts occur. There is no definitive information at this time on the magnitude of these shifts. Should there be reductions in local coal production within a given region, there could be a corresponding alteration in employment and population. The loss of production in an area would create unemployment in mining, state and local government, and private sectors which were dependent on the mining in the area. Some labor might shift to other industries or to other mining jobs, if they are available. Conversely, areas that experience increases in production would have employment increases. Such shifts could place stress on the public facilities and services in the communities involved.

Should there be a shift in production from surface to underground mining, there would be an increase in job opportunities for coal miners. Depending on the techniques used, underground mining could lead to less recovery of the coal resource due to subsidence control regulations. Also, underground mining is more hazardous to miner safety than surface mining. Consequently, a shift from surface mining to underground mining might result in an increase of mining fatalities and injuries. Shifts to underground mining would result in increased coal costs because development and mining costs are higher for underground mining than for surface mining. The magnitude of increased cost will depend on the magnitude of the shift which OSM is unable to predict.

C. OTHER TOPICS

1. Experimental Practices

a. Impacts of the Regulations

Permits granting departures from the environmental performance standards on an experimental basis must be approved by the regulatory authority and the Director. By increasing the burdens of review for proposed experimental practices, the regulations may discourage experimentation. This discouragement may lessen the likelihood of development of some beneficial mining or reclamation techniques but will also lessen the likelihood of adverse impacts from uncontrolled, unsuccessful experimentation.

Part 785.13, Experimental practices, provides procedures for permitting operators to deviate from the environmental performance standards of Subchapter K and a regulatory program for the conduct of research and investigation on an experimental basis. Departures from the performance standards under the auspices of experimental practices are to encourage advances in mining and reclamation practices and to allow certain postmining land uses of industrial, commercial, residential, or public use including recreational facilities on an experimental basis.

Each departure at a minimum must satisfy the following conditions: (1) the proposed experimental practice is potentially more or at least as environmentally protective during and after mining operations as those established by Subchapter K and the regulatory authority; (2) the area to be affected by the experimental practice and approved for a particular land-use or other purposes is not larger or number of experiments more numerous than necessary for OSM to monitor the results to determine the effectiveness and economic feasibility of the departure; and (3) the experimental practice will not reduce the health and safety protection afforded the public through the established environmental performance standards.

Experimental practices are anticipated to provide technical knowledge and practical experience by which mine operations may be improved or modified for the purposes of enhancing compliance with the Act and this regulatory program and utilization of the Nation's natural resources. The conduct of an experimental practice should have environmental impacts similar to those discussed in Part B, Section IIIA and B since they must be at least as protective as the applicable environmental performance standard. Issuance of experimental practices permits should advance knowledge of improved mining and reclamation concepts, technologies and practices.

2. Permit Procedures (Subchapter G)

Impacts of the Regulatory Program

The major impact of the preparation of permit applications and of the permit procedures will be the expenditures of money and labor to obtain and process the required information. Financial, legal and environmental data are required which may be costly, difficult, or time consuming to obtain. These effects of the regulatory program on industry are also discussed in Part B, Section III.B.8.

In addition, a short-term decrease of anticipated regional coal production may occur due to delays in starting new mines and temporary (or possibly permanent) interruptions of production in established mines. The delays would be caused by the time required by the mine operator to obtain the necessary information and by the time required by the regulatory authority to process the number of permits that will be under consideration at the onset of the program and public hearings. These also are discussed in Part B, Section III.B.8.d.

Minor short-term adverse impacts on environmental resources could occur as a result of some of the activities required for obtaining the data. These could include extra core drilling for purposes of obtaining hydrologic data, trapping of wildlife to establish baseline data, census studies, and vegetation damage when motor vehicles enter the study areas.

The permit process should result in the production of useful, reliable data for the regulatory authority to use in making a sound decision. The environmental information in the permit application will enable the permittee and regulatory agency to determine what environmental effects can be expected from the mining operation, what protective measures will be required to comply with the performance standards, and whether successful reclamation can be expected to be achieved. If, based on the information, it is found that mining will result in irreversible damage to the environment because successful reclamation is not possible, or if the operator has a record of environmental irresponsibility, the permit to mine may not be granted.

Regional differences will occur in the information requirements of the permit due to differences in environmental parameters (i.e., climate, geology, vegetation types). Information requirements will also differ on a mine-by-mine basis due to the differences in the types or presence of site specific resources (i.e., forests or grazing lands, cultural resources, shallow or deep aquifers, etc.). Therefore, the specific impacts of data gathering for permit applications cannot be analyzed at this programmatic level of analysis.

The adverse environmental effects of the permit procedures (not the expected results) would be of short duration lasting only until the data is obtained. The permit procedures should, however, result in greater assurance of protection of the resources during mining and of successful reclamation after mining as a result of the information provided by the permit applicant and considered by the regulatory authority.

The magnitude of impact due to the permitting process is dependent on the extent to which the OSM regulatory requirements exceed those of existing State programs. As shown in Tables B7 and B3, the States with coal reserves have varying degrees of regulation, thus varying degrees of informational requirements. According to Imhoff and others (1976, p. 26), there are significant differences in the information requirements.

3. Existing Structures

a. Analysis of the Preferred Alternative

(1) Existing Structures

The types of structures which may be affected by the regulations in the preferred alternative concerning existing structures are roads and associated structures, fills, berms, benches, waste banks, discharge structures, diversions, rail loops, rail sidings, rail spurs, refuse areas, shafts, spoil pipes, utility lines, terraces, drains, wells, exploration holes, boreholes, barricades, fences, bridges, culverts, storage areas, mine buildings, tipples, storage or repair facilities, surge ponds, processing plants, slurry pipelines, conveyors, and other manmade structures or areas disturbed by mining.

An accurate estimate of the number of structures which will require reconstruction or modification is not possible because this determination can be made only on a case-by-case basis. Approximately 7,000 coal mines exist in the country. These mines will have many of the structures listed above which will be subject to the permanent program performance standards. Without knowing how many such structures exist at the coal mines across the country, and whether those structures will meet the performance standards which may be adopted, a reasonable estimate of the number of existing structures which will require reconstruction or modification cannot be made. An estimate also cannot be made of which types of existing structures will require reconstruction or modification.

(2) Description of Preferred Alternative

The preferred alternative provides an exemption from the design standards for those existing structures which meet the performance standards of the proposed permanent program. The regulatory authority may grant this exemption upon finding that no significant harm to the environment or public health and safety will result from continued use of the structure. The decision as to whether a structure is in compliance with the performance standards will be made by the regulatory authority on a case-by-case basis during the permit review process.

The regulations require that those structures which do not meet the performance standards of the permanent program must be modified or reconstructed to meet both the permanent program design standards and the performance standards. The regulations allow up to 6 months after issuance of the permit for the reconstruction or modification of those structures. The regulatory authority in deciding whether to approve reconstruction or modification of an existing structure must determine, based upon a demonstration by the permit applicant, whether the risk of harm to the environment or public health and safety is significant during the period of reconstruction or modification. If such risk is significant, the applicant will be required to abandon the structure.

b. Impacts of the Preferred Alternative

(1) Exempted Structures

The provisions for exempting structures which meet the permanent program performance standards in the preferred alternative have the following impacts:

(i) Over the short term, continued compliance with the performance standards can be assumed and the possible short term adverse impacts associated with reconstruction or modification of stabilized existing structures would be avoided. Some existing structures, such as haul roads, may be well-protected against erosion by mature vegetative cover and have become structurally stable during years of use. Assuming, as the preferred alternative requires, that the exempted structures meet the perferred alternative performance standards, the exemption from reconstruction or modification requirements eliminates potential impacts such as significant erosion, contributions of sediment to stream flow, localized destruction of wildlife habitat, increased levels of fugitive dust emissions or land slides which could otherwise occur during reconstruction or modification.

(ii) Over the long term, the exemption poses certain risks of harm to the environment or threats to public health and safety. The precise objective for establishing design standards - ensuring long-term compliance with performance standards - may not be met. For example, an existing impoundment dam could meet the performance standards upon evaluation by the regulatory authority but, in later years, form leaks that allow suspended solids or other contaminants to reach the waterways or that ultimately cause the dam to fail threatening public health and safety.

(2) Reconstruction or Modification

The benefits of reconstructing or modifying existing structures in order to meet design and performance standards of the preferred alternative will be to increase the likelihood that existing structures will comply with the preferred alternative performance standards during the life of the structure. Structures built in accordance with carefully engineered design standards are more likely to remain structurally sound and continue to meet the standards for performance than are structures which are not designed to meet the same level of performance over the life of the structure. Long-term benefits to the environment and public health and safety will result. Depending upon the remaining life of a given mine or structure, the added assurance that performance standards will continue to be met could extend for 15 to 20 years or more.

Reconstruction activities will result in short-term impacts, including disturbance to vegetation and wildlife at the construction site, erosion from the site increasing the sediment load of nearby streams, increased noise levels and dust from the construction activities falling on nearby areas. Reconstruction will cause redisturbance of previously disturbed resources and, likely, disturbance of new areas. Over the long-term this impact will be partially mitigated by the requirements to reclaim land when the structures are removed.

The schedule for reconstruction or modification, allowing up to six months for this purpose, should help to mitigate some of the short-term impacts associated with the construction work.

The time allowed for bringing non-conforming existing structures into compliance with permanent program design criteria and performance standards allow planning and scheduling of reconstruction to take into account seasonal weather patterns, equipment and labor needs, and coal production schedules. Assuming that modification or reconstruction of an existing non-conforming structure would be required at some time, this approach, which allows careful planning and scheduling, may help to mitigate some of the short-term adverse impacts associated with such reconstruction activities.

The construction period allowed by the preferred alternative will allow any existing short-term water and air quality degradation from the non-conforming structure to continue longer than would be the case if immediate compliance with design and performance standards were required. The preferred alternative provides that the regulatory authority will not authorize reconstruction or modification if such action would cause significant harm to the environment or public health and safety. If such would occur, the structure would have to be abandoned and a new structure constructed in its place. In determining the significance of any potential harm, the harm from reconstruction would have to be balanced against the potential impacts associated with abandoning the existing structure and constructing a new one in its place. This facet of the preferred alternative provides a mechanism for eliminating the short-term impacts which could be associated with reconstruction or modification if such impacts are found to be significant. In place of such impacts would be the short-term impacts of abandoning the existing structure in accordance with the abandonment requirements in the preferred alternative and constructing a new structure to meet the design and performance standards of the preferred alternative.

Figures 26 through 28 have been deleted. Figure 29 follows.

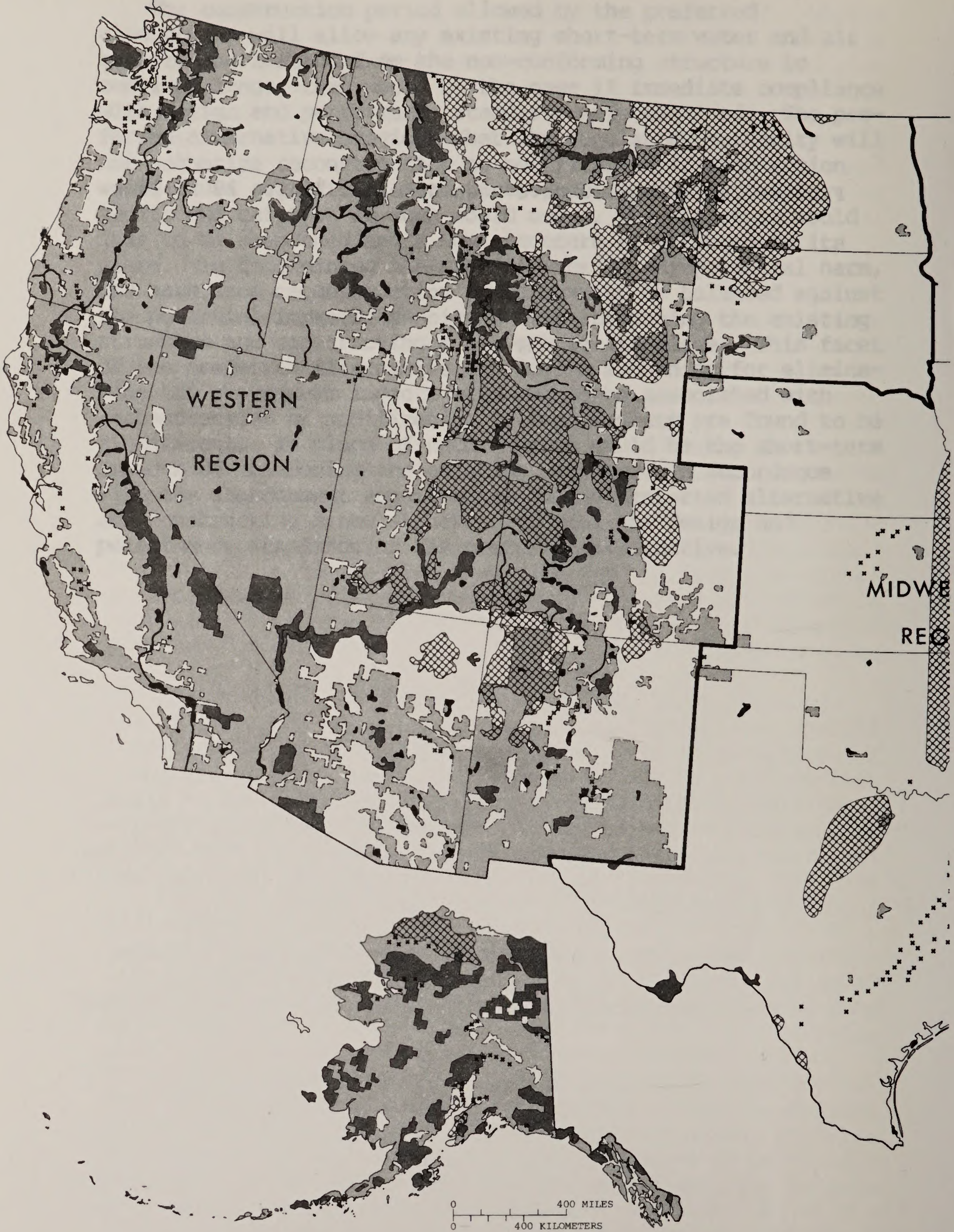
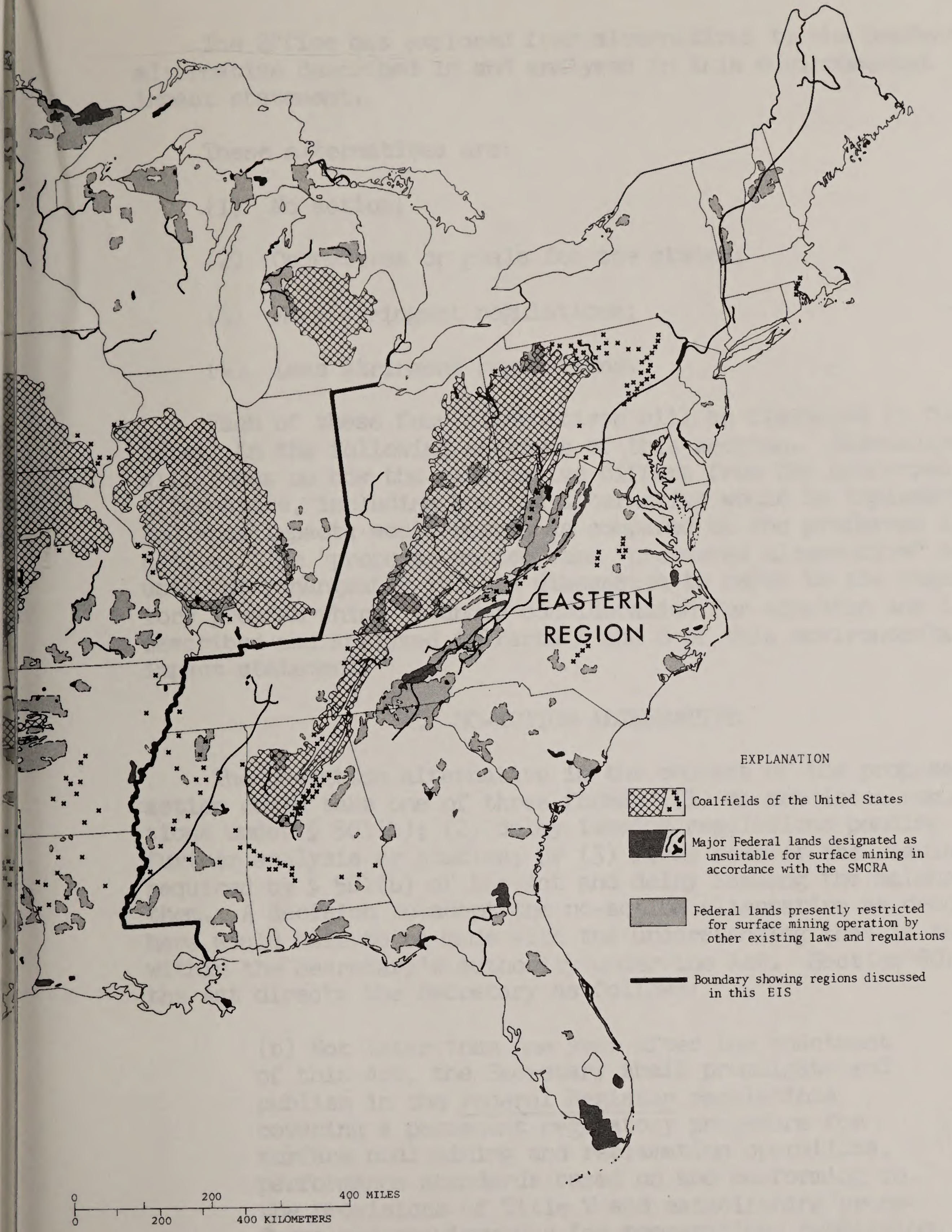


Figure 29.—Coalfields of the United States in relation to the major Federal lands designated as unsuitable for surface mining in accordance with the SMCRA (Surface Mining Control and Recla-


EASTERN REGION
EXPLANATION
Coalfields of the United States
Major Federal lands designated as unsuitable for surface mining in accordance with the SMCRA
Federal lands presently restricted for surface mining operation by other existing laws and regulations
Boundary showing regions discussed in this EIS
0
200
400 MILES
0
200
400 KILOMETERS

mation Act of 1977) and the Federal lands presently restricted for mining operations by other existing laws and regulations. Source: Trumbull (1960) and U.S. Department of Interior (1976b).

SECTION IV: ALTERNATIVES TO THE PROPOSAL

The Office has explored four alternatives to the preferred alternative described in and analyzed in this environmental impact statement.

These alternatives are:

(1) No action;

(2) Objectives or goals for the states;

(3) More stringent regulations;

(4) Less stringent regulations.

Each of these four alternatives will be discussed in further detail in the following sections of this section. Discussion will focus on how the alternative differs from the preferred alternative, including how the alternative would be implemented and what impacts would result as compared to the preferred alternative. The "proposed action" and "preferred alternative" are used interchangeably in this discussion to refer to the regulatory program which is under consideration for adoption and is described and analyzed in Parts A and B of this environmental impact statement.

A. NO-ACTION ALTERNATIVE

The no-action alternative in the context of the proposed action could take one of three forms: (1) do not issue regulations under § 501(b); (2) delay issuing regulations pending further analysis or studies; or (3) issue some of the regulations required by § 501(b) of the Act and delay issuing the balance of them. A decision to adopt the no-action alternative as described here would have to be made with the understanding that it is not within the Secretary's authority under the Act. Section 501(b) of the Act directs the Secretary as follows:

> (b) Not later than one year after the enactment of this Act, the Secretary shall promulgate and publish in the Federal Register regulations covering a permanent regulatory procedure for surface coal mining and reclamation operations, performance standards based on and conforming to the provisions of Title V and establishing procedures and requirements for preparation, submission, and approval of state programs; and development and implementation of Federal programs under the Title. The Secretary shall promulgate these regulations, which shall be concise and written in plain, understandable language in accordance with the procedures in Section 501(a).

In the face of this congressional direction, a decision to adopt the no-action alternative could, in all probability, be subject to successful challenge in litigation, in the absence of congressional action to amend the Act. As part of the no-action alternative, the Secretary could propose an amendment to the statute which would authorize a delay in promulgating regulations implementing the permanent regulatory program.

Section 706 of the Act provides one mechanism for proposing such an amendment. The section requires the Secretary to submit to Congress an annual report addressing activities conducted by him, the Federal Government and the States pursuant to the Act. As suggested by § 706, the annual report could include proposed amendments to the Act.

> Section 706. The Secretary shall submit annually to the President and the Congress a report concerning activities conducted by him, the Federal Government, and the States pursuant to this Act. Among other matters the Secretary shall include in such report recommendations for additional administrative or legislative action as he deems necessary and desirable to accomplish the purposes of this Act.

Consideration of this alternative must include consideration of the time frame within which it could be accomplished. Section 501(b) of the Act called for promulgation of the permanent program by August 3, 1978. For a variety of reasons, including a significant delay in congressional appropriations for staffing and operating the Office of Surface Mining, the Office has been unable to meet the one-year time period for promulgating the permanent regulatory program Section 501(b) of the Act, other statutory provisions, and the legislative history of the Act clearly demonstrate that Congress recognized the urgency of establishing a permanent regulatory program to minimize damage to the environment and to the productivity of the soil and to protect the health and safety of the public. (See § 101(d),(e); S.Rep.No. 95-128, 95th Cong., 1st Sess. 49-53 (1977)).

A decision on whether to recommend an amendment to the Act would have to consider and weigh the urgent need for a regulatory program against the time which would be required for obtaining approval of a proposed amendment from the Office of Management and Budget and the President, submitting such an amendment to the Congress and obtaining congressional action on it. Such an alternative might not be reasonable if it could not be accomplished within a time frame consistent with the recognized need to provide a national regulatory program to regulate the adverse environmental and public health and safety effects of coal mining operations.

The environmental impacts of the no-action alternative can be determined from a comparison of the preferred alternative with the initial regulatory program in effect under § 501(a) of the Act at this time. Regulations implementing the initial regulatory program were promulgated n December 13, 1977. (42 F.R. 62637-62716). The initial program would represent the status quo which would be maintained if the no-action alternative were selected.

The initial program was intended by Congress to represent the first phase of implementation of the comprehensive national regulatory program. The performance standards which apply during the initial program cover some of the more critical environmental and public health and safety concerns associated with coal mining operations. These standards include requirements for restoring the pre-mining capacity of the land following surface coal mining operations, returning land to the approximate original contour, handling of topsoil, minimizing disturbances to the prevailing hydrologic balance, regulation of coal mine waste piles, use of explosives, revegetation requirements, and operations on steep slopes. In addition, regulations in the initial regulatory program include performance standards for mountaintop removal operations, special bituminous coal mines, anthracite coal mines in Pennsylvania, coal mines in Alaska and prime farmlands.

While the initial regulatory program provides a more uniform level of protection to the environment and public health and safety throughout the Nation than existed prior to enactment of the Surface Mining Control and Reclamation Act, it is by no means as comprehensive as the permanent regulatory program, even in those elements where certain aspects of the permanent program standards have been found necessary to give effect to the initial standards and are, thus, reflected in the initial regulatory program. The permanent regulatory program includes the balance of the performance standards in § 515 and 516 of the Act not included in the initial program. These include requirements for maximizing the recovery of the coal resource so as not to reaffect the land in the future through surface coal mining operations; stabilizing and protecting surface areas to control effectively erosion and attendant air and water pollution; restoration of topsoil or best available subsoil to support vegetation; comprehensive protection for prime farmlands; retention of permanent impoundments; conduct of augering operations; comprehensive provisions for disposal of mine wastes, concurrent surface and underground mining, control of materials constituting fire hazards; contemporaneous reclamation; regulations for the construction, maintenance, and post-mining conditions of roads; assuring revegetation success; protection of offsite areas from slides or damage; disposal of excess spoil; reclamation criteria; protection of fish, wildlife and related environmental values; and use of natural barriers to control slides and erosion. In addition to a more comprehensive set of performance standards, the permanent regulatory program program establishes a comprehensive permitting system and bonding requirements.

Certain adverse environmental impacts of mining would continue to occur as a result of this no-action alternative due to those aspects of surface and underground coal mining operations which would not be subject to the full set of performance standards. For example, regulations related to subsidence control are not included in the initial regulatory program. State regulations to prevent material damage from subsidence are virtually nonexistent except in Pennsylvania. Similarly, regulations relating to auger mining, fish and wildlife habitat, control of slides and erosion and waste disposal are all included in the permanent program, not in the initial regulatory program, and are more stringent than those now found in States. See Part B, Section III for discussion of the impacts of these standards when compared to existing regulations.

The permitting and bonding requirements under the preferred alternative provide a degree of protection to the environment and public health and safety which would not occur under this alternative. For the initial regulatory program Congress did not require changes in existing state permitting and bonding requirements. The essential findings and determinations regarding the feasibility of reclamation required for permit issuance, based on detailed information to be submitted with permit applications, would not occur were this alternative adopted. This could result in decisions being made with respect to surface coal mining operations on the basis of inadequate information with the result that unforeseen impacts could arise from such operations under this alternative.

Under this alternative, the assurance that lands will be reclaimed to premining capability or productivity, as provided by the bonding requirements, would not exist. Under the preferred alternative, bonds must be executed which would cover the costs of reclaiming the land, should the regulatory authority have to undertake such reclamation. The expense of forfeiting such bonds will provide the necessary incentive to accomplish reclamation in accordance with the requirements of the permanent regulatory program. If the no-action alternative were adopted, bonding requirements under existing state laws, some of which may not provide adequate coverge to enable the state regulatory authority to reclaim the land, would be the only protection afforded.

Under this alternative the procedures for designating lands unsuitable or mining would not apply. Such designation procedures afford protection to lands of significant value for purposes other than coal mining, which protection would not exist uniformly across the country in the absence of adopting the preferred alternative. In states without any comparable procedures for protecting lands of such value, adopting of the no-action alternative would result in definite adverse impacts.

compliance with the additional set of performance standards would be eliminated and the bonding and insurance requirements in the preferred alternative would not exist. State regulatory authorities would not have to hire additional personnel which are likely to be necessary under the preferred alternative to process permit applications and inspect and enforce permanent regulatory requirements. These savings, to the extent they do not require coal mine operators to internalize the costs of conducting surface coal mining operations so as not to adversely affect the environment or public health and safety, may be offset by the additional cost placed upon the public sector to undertake publicly-financed projects to eliminate water pollution, reclaim abandoned coal mines to eliminate erosion, sedimentation problems, mine fires, acid-mine drainage, and other impacts which have in the past been associated with coal mine operations.

B. ESTABLISH A REGULATORY PROGRAM BASED ON OBJECTIVES OR GOALS FOR THE STATES

OSM could promulgate national regulations in the form of general objectives or goals; however, the goal-oriented program could not be more general than allowed by the provisions of SMCRA. Where considerable discretion is allowed in SMCRA, the regulations could consist of goals to be achieved by State regulatory programs rather than specific regulatory requirements. Where little discretion is allowed, the regulations would have to be specific. However, Section 201(c)(2) requires the Secretary to "promulgate such rules and regulations as may be necessary to carry out the purposes and provisions of this Act," including Section 501(b) of the Act.

A goal-oriented approach would not be applied to a Federal program for a State that chooses not to assume primary regulatory responsibility or that is unable to obtain OSM approval of their proposed State program. The Secretary must have specific standards and procedures to implement the provisions of the Act. Therefore, to implement and enforce a Federal program, the Secretary must promulgate regulations in sufficient detail to permit compliance with the Act. (Further, the Federal Lands Program which is not specifically analyzed by this EIS also necessitates the specific standards contained in the preferred alternative.)

A State that chooses to assume primary regulatory responsibility under SMCRA would demonstrate its capability to meet the national regulatory goals and objectives through its own legislation and regulations. That is, OSM would provide the goals and objectives that apply nationally, and the States would be required to submit their regulations to OSM for approval. This alternative would provide limited, if any, additional flexibility to the States in preparing their regulations to meet State needs. Under Section 731.13 of the preferred alternative, the "State Window", any state may propose and have approved alternative provisions within its program. Thus, under either the preferred alternative or this alternative a state may make a regulation more specific to the environmental conditions of the particular State than the minimum set forth in the national program. However, it is not possible to predict if any of the States will elect to be more specific.

No direct environmental impacts should result from preparing proposed State programs for submission to OSM under this alternative that would differ from those resulting from the preferred alternative described in Part B, Section III. Indirect environmental impacts as a result of the related costs and added administrative efforts that the States must undertake could be expected to occur in States lacking a well-established program. While this alternative may appear less burdensome to States than the preferred alternative, in reality some State efforts and costs may be considerably greater because States would be required to employ technical experts and additional legal advisers to develop rapidly the necessary legislation and regulations. These administrative activities and associated costs would be duplicated in total or in part in each of the coalproducing States that wish to establish an approved program in place of the national program. Similar costs could be incurred if a State elected to change every portion of the regulations under the "State Window" provision of the preferred alternative. This alternative would deny the option to states of developing only those unique laws or regulations considered necessary or desirable.

This alternative could have an adverse impact on compliance with the initial OSM program performance standards until the State program could be implemented, because State personnel directly responsible for inspections and enforcement actions are, for the most part, the same people who possess the necessary expertise to draft the specific legislation and regulations which would be required under this alternative. Additionally, this could lead to a period of lessened inspection and enforcement and, thus, increased environmental degradation under the initial program. The probability and magnitude of such impacts would be dependent upon the State's existing staffing capabilities. As discussed in Part B, Section III.B.7, States have already begun adding staff for implementing and enforcing the initial program, but in many States existing staffing capabilities could be severely taxed under this alternative.

This alternative should have negligible direct adverse environmental impacts, but it could have short-term indirect adverse environmental impacts as a result of possible lack of State staffing needed to simultaneously enforce the initial program and to prepare State regulatory programs under this alternative.

C. ESTABLISH A REGULATORY PROGRAM WITH MORE STRINGENT REGULATIONS

A number of more stringent regulatory standards are possible and were considered individually during the rule-making process. A regulatory program based on more stringent regulations could afford an increment of increased protection for the environment and public health and safety beyond the protection provided by the preferred alternative. A more stringent program could also result in better assurance of successful reclamation, but it would likely result in less recovery of coal. A more stringent regulatory program would increase costs to coal operators but decrease costs to State governments. More stringent regulations would generally fall into four categories as discussed below.

1. Four Categories of More Stringent Regulations

a. More Comprehensive Specification of Design Criteria

The preferred alternative requires that minimum design criteria must be followed in some situations, but it also provides flexibility for operators to choose among various designs in others and allow for complete discretion of the regulatory authority to approve any design necessary to meet the performance standards of the Act in still others.
Congress stated, however, that OSM should prepare a uniform regulatory scheme and there should be "one set of rules,

one program in the whole country" (Congressional Record, p. H3732, April 28, 1977). Thus, OSM could adopt more stringent regulations than the preferred alternative by requiring specific design criteria in all situations for all applicable standards under the Act.

Adoption of stringent, uniform design criteria for all performance standards would, potentially, provide greater protection for the environment than the preferred alternative. Whether explicit, reliable design requirements could be established for all the standards in the Act however, is uncertain, and design criteria for all performance standards could be counterproductive because flexibility in design to meet local conditions would be eliminated. As a result of such inflexible criteria, some mining operations could be rendered uneconomic or be precluded altogether.

Generally, design criteria provide an additional level of confidence that the performance standards will be maintained over the long term. Structures constructed according to design criteria are more likely to meet performance standards under stressful conditions. Without specific design criteria, structures may be constructed which would meet performance standards in the short term under average conditions, but could fail to meet the standards over the long term under more stressful and environmentally damaging conditions or could degenerate over a longer time. If the standards are not met, environmental, health and safety impacts could be both immediate and severe, as in the case of failure of head-of-hollow fills or impoundments.

Standards under SMCRA for roads and other transportation facilities, impoundments, and disposal sites could be more comprehensive than those included in the preferred alternative. Water quality protection could be improved by reducing sedimentation and increased public safety, by minimizing the probability of flooding due to collapse of impoundments or inability of drainage structures or impoundments to pass storm waters. This unquantifiable increment of environmental protection should be greater than that resulting from the proposed regulations as discussed in Part B, Sections III.A.4.b(4) and III.B.6 because the more comprehensive design criteria would increase the degree of environmental protection on a national basis.

More comprehensive specified design criteria at the national level can lead to overdesign and thus to a possible decrease in environmental protection for other resources. As an example, over-design of roads and impoundments can cause a greater loss of vegetation and wildlife habitat because the area affected by road cuts and fills or covered by earth dams would be increased;

long fill slopes, for example, require devoting much more acreage to the road, thus reducing wildlife habitat. Similarly, stringent design requirements for disposal sites may inhibit erosion control efforts that are dependent on variations of terrain and may also adversely affect esthetic considerations because local innovation to capitalize on local conditions is eliminated.

To the extent that comprehensive design criteria may lead to overdesign, the costs of the structures and facilities may be greater than necessary to provide environmental protection. This will result in added operational costs and increased coal prices.

b. Narrower Range of Options Within Standards and Criteria

Standards under SMCRA for topsoil handling, revegetation, drainage structures, channel diversions and others could reasonably be included in this category. Limiting the regulatory authorities' discretion in applying standards and criteria could decrease State government costs by minimizing the mining operation-by-mining operation review and evaluation requirements. The result could be greater environmental protection than offered by the preferred alternative, as discussed in Part B, Sections III.A.3, 5, and 4.b(4), and Section III.B.8.g. Such stringent requirements could also reduce coal recovery by increasing mining costs, thus making otherwise recoverable coal uneconomical to mine.

Revegetation and topsoil handling are highly dependent on local conditions of soils and climate. If variations were not allowed on a local basis, the chances for success of revegetation, restoration of land in general, or restoration of agricultural productivity or wildlife habitat would be inhibited. Under SMCRA, a permit to mine cannot be issued unless the applicant can demonstrate that successful reclamation can be accomplished.

Design of drainage structures and channel diversions is dependent primarily on rainfall and terrain. Inflexible regulations for these structures could, similar to comprehensive design criteria discussed previously, lead to unnecessarily increased costs or excessive land use for these structures. However, public safety and water quality protection could be increased by reducing the potential for flooding.

c. Establishment of Specific Prohibitions on Mining

Standards under SMCRA which would preclude coal mining because of stream buffer zones, ground-water protection, and fish and wildlife and related environmental values could reasonably be included in this category. Under the alternative of more stringent regulations, absolute prohibitions would be established to protect certain types of environmental resources. The prohibition of coal mining could assure total protection from the adverse effects of coal mining for sensitive resources. An unmined buffer zone could be required to trap silt, thus minimizing sedimentation along all streams designated in mine areas. Aquifers for potable or irrigation water supplies could be fully protected by eliminating all mining, as could important fish and wildlife species and their habitats and threatened and endangered species. With specific prohibitions for the protection of these types of resources, a substantial but unquantifiable increment of greater environmental protection could be achieved as compared with the preferred alternative. See Part B, Sections III.B.1 and 2 and III.A.4.b(4). Because of such prohibitions, an undetermined but significant amount of coal under these resources would not be mined. Such prohibitions might also tend to concentrate mining operations and related impacts within areas where mining could be conducted.

d. Requirement of More Information for Decisionmaking in the Regulatory Program

Portions of the preferred alternative dealing with the permit system, performance bonding, State program submissions, monitoring during mining and designation of lands unsuitable for coal mining, could be included in this category. The requirement for more information would increase the cost for program administration and mine operations. Generally, it might not significantly increase the level of direct environmental protection. However, additional information could provide a better data base for balancing the needs for environmental protection with coal recovery when considering permit applications and petitions to designate lands unsuitable. To the extent that the added information indicated that reclamation could be successful after mining, more permits could be approved and more coal recovery would be possible. Conversely, more information could indicate that reclamation is not feasible and coal recovery would be lessened. For petitions to designate lands unsuitable, more information could provide for a better understanding of the need to protect the sensitive resources.

More monitoring during mining is another method of providing additional information. Mine operators and the regulatory authority would be able to determine more quickly when performance standards are not being met or are not likely to be met. Operations could be modified sooner to bring them into compliance without inspection and enforcement actions.

More information following mining could provide a better basis for determining when successful reclamation has been achieved and when performance bonds should be released. To the extent that more information provides an earlier release of performance bonds, cost to mine operators might be reduced. More information could also establish that successful reclamation has not been achieved, and mine operator costs would increase due to longer term performance bonds.

2. Examples of More Stringent Regulations

Examples of more stringent alternatives considered by OSM and discussions of their impacts are presented below.

C-1: Protecting Streams by Limiting Mining Within 100 Feet of Streambanks (Section 515(b)10 of the Act)

Alternative.--Prohibit mining within 100 feet of any stream.

The difference between this alternative and the preferred alternative is one of scope. This alternative would prohibit all mining activities within 100 feet of all streams, while the preferred alternative would restrict, subject to regulatory authority approval, mining activities near perennial streams, or streams with a macro-invertebrate biological community, i.e., a stream with macroscopic life. Impacts of the preferred alternative are discussed in Part B, Section III.

Impacts of the alternative.--The impact of adopting this alternative would be to protect more streams from sedimentation caused by coal mining than the preferred alternative because a 100 foot wide undisturbed zone that reduces sediment transport to streams would be required for all streams. Approximately 5,800 miles of streams (57,000 acres) and 29,000 surface acres of impoundments and reservoirs have been seriously affected by active and abandoned coal mining operations (U.S. Department of the Interior, 1968). Because OSM does not have more current figures on the miles of streams currently affected by surface mining, nor for the miles of streams that are perennial, intermittent or contain macroscopic life, the impact of this alternative cannot be accurately quantifed. Compared to the preferred alternative however, it would provide greater environmental protection.

On the other hand, prohibiting all mining activity within 100 feet of ephemeral streams would preclude maximizing recovery of the coal resource. The magnitude of this impact is unknown.

C-2: Water Quality: Monitoring of Downstream Sediment Transport (Sections 507(b)(11), 510(b)(3), and 515 (b)(10) of the Act)

Alternative.--Require total suspended solids/sediment monitoring in the next three orders (based on stream classification nomenclature) of receiving streams downstream from discharges in the areas disturbed by a particular operation. The environmental impacts of OSM's preferred alternative on hydrology are analyzed in Part B, Section III.4. At issue is whether to expand the monitoring requirements in order to measure more fully the effect of mining on the drainage basin when mining is proposed. The preferred alternative requires monitoring to assure protection of the quality and quantity of the surface and subsurface waters on the permit area and adjacent areas. The alternative requires a more comprehensive monitoring program of the larger drainage basin.

Impacts of the alternative.—This alternative would ultimately result in more water quality data than the less stringent requirement of the preferred alternative. If the additional monitoring under this alternative were required, more data would be available to use in assessing the impact of mining. The preferred alternative provides for using monitoring data for enforcement of State and Federal water quality standards. A need for additional data on sediment within a particular drainage basin is not apparent in order to enforce water standards since that information could be obtained when needed at the downstream discharge. Monitoring of this type would increase the costs of mining. This data might be used by regulatory authorities in deciding whether water quality standard would be met after bond release. However, the increased cost could be incurred for only a small increment of environmental protection.

C-3: Regulating Air Quality Impacts of Surface Mining Activities (Sections 508(a)(9), 515(b)(4), and 515 (b)(24) of the Act)

Alternative.--Promulgate specific air quality emission standards for each surface mining operation.

The preferred alternative differs from the alternative in that no specific emission standards are required. This alter--native would require that surface mines must protect air quality by a variety of emission control measures depending upon the situation at a particular mine. The environmental impacts of the preferred alternative on air quality are discussed in Part B, Section III.A.1.

Impacts of the alternative.—Promulgating emission standards to protect air quality at each mine could result in significant reductions in fugitive dust from surface coal mining operations. Preliminary studies to establish the emission rates for western surface coal mines have been performed (Axetell, 1978). Opacity standards and mass emission rate standards could be utilized to reduce emission of air pollutants to levels which could achieve and maintain ambient air quality standards. This regulatory approach would be similar to EPA's approach to controlling stationary sources under Section 110 of the Clean Air Act. By requiring control of emissions to an established standard, the air quality would not be degraded beyond that standard and could achieve the highest, technologically feasible level of protection.

The principal impediment to implementing this alternative, however, is the scarcity of data and literature on this topic and efficiency of current modelling, monitoring and control practices. Additional information is necessary to establish opacity standards or mass emission rate standards for surface coal mining sources. To establish requirements for fugitive dust control using practices that are technologically unproven at this time might result in arbitrary denial of permits and prohibition of coal mining, thus reducing the amount of coal produced. This effect would be particularly important in the West because of the arid climatic conditions, prevailing winds, loose soils, sparse vegetation and acreages affected at any one time during mining operations. Because of the lack of sufficient information, establishing a standard is not now realistic. Consequently, some air quality degradation will occur as a result of the preferred alternative because the operator will only be required to apply fugitive dust control practices. However, since a minimum air quality standard has not been established, there is no baseline level which the operator must satisfy.

C-4: Maximum Recovery of Coal Resources to Minimize Reaffecting the Land (Section 515(b)(1) of the Act)

Alternative.--Specify a particular amount of coal (e.g., 85-percent or 90-percent) to be recovered in order to maximize coal recovery and reduce the probability of reaffecting the land in the future.

This alternative differs from the preferred alternative by requiring a specified amount of coal recovery. The alternative establishes a single standard which does not consider a variety of field conditions, such as environmental setting, geometry of the mine, coal resources, and health and safety conditions. In contrast, the preferred alternative provides flexibility for the regulatory authority to set coal recovery standards on a case-by-case basis, based on mining plan review and related data. The reader is referred to Part B, Section III.B.8.g, of this environmental impact statement for a general discussion on recovery of the coal resource.

Impact of the alternative.--Establishment of a specific standard for minimum recovery of coal might be easier to enforce than if the determination of what coal recovery constitutes maximum recovery is left to the discretion of the regulatory authority. If the amount of coal extracted by the operator is left to a simple economic determination, with little or no oversight exercised by the regulatory authority, coal may be left in the ground which, with a small shift in economics, would be profitable to mine in the future. A second cycle of mining would then cause environmental impacts similar to those of the first entry. These impacts have been previously discussed in Part B, Sections II.D.3.d and Part B, Section III.

Numerous difficulties are inherent in adopting an absolute standard for recovery of the coal resource because coal quality, thickness and mining conditions vary from site-to-site. As an example, the quality of the coal is an important determinant in deciding whether the coal is worth mining. A standard which does not take into account the quality of the coal might force operators to mine coal which could not be sold because of its high sulfur content. However, a thin layer of high sulfur coal could be blended with more desirable low sulfur coal to create a saleable product, thereby maximizing the recovery of the coal resource. Burning of such coal is controlled under regulations of the Environmental Protection Agency. (see Part B, Section I.A.5.)

Depending on the geologic occurrence of the coal, complete recovery of thin layers of coal at the margins of a coal seam or recovery of coal in a gradational margin can be technologically impossible without a major increase in the mining cost. As a result, an inflexible recovery standard could preclude mining of an undetermined amount of coal by making it uneconomical to mine using current mining methods. If such deposits, subsequently, became economically mineable, the area could be subjected to a second mining cycle, thus impacting the region again.

Adopting this alternative could also cause significant impacts by requiring an inflexible recovery rate for underground mines. A high recovery rate, for example, might not permit the operator to leave sufficient roof support, thus subjecting miners to possible hazardous conditions and surface areas to the adverse impacts of subsidence. Similarly, inflexible recovery rates for surface mining could result in less protection of streams, groundwater supplies, structures, and other surface and subsurface resources. The impacts which might be more severe are discussed in Part B, Sections IID and IIIA.4.

C-5: Disposal of Spoil and Waste Materials (Section 515(b)(11) and (22) of the Act)

Alternative.—Require that all spoil and waste disposal be conducted in a specified controlled manner.

At issue is the method for disposal of spoil and waste. The preferred alternative gives the regulatory authority discretion for different spoil disposal methods standards under certain conditions. This discretion could be avoided by specifying only certain allowable design characteristics for spoil and waste disposal, as would be required by the alternative. The environmental impacts of spoil and waste disposal in general are discussed in Part B, Section III.

Impacts of the alternative.—Adoption of the more stringent alternative would increase cost of disposal, particularly for those mining operations where adequate disposal sites are at a premium. Principle beneficial impacts of this alternative would be increased protection of ground-water and surface-water quality and less chance of hazards to public safety and damage due to flooding where the disposal site is located in a valley or head-of-hollow.

C-6: Prevent Subsidence Caused by Underground Mining (Section 516(b)(1) of the Act)

Alternative.—Monitor all surface and incident areas over underground mining operations to detect any resulting subsidence.

Part B, Section III, discusses the general environmental impacts of subsidence resulting from underground mining. The alternative differs from the preferred alternative by requiring subsidence monitoring; the preferred alternative does not require monitoring.

Impacts of the alternative.—OSM's preferred alternative is stringent with regard to subsidence control and the measures to be taken to prevent subsidence. Such measures include backfilling, leaving coal in place, using artificial supports, and requiring a detailed subsidence control plan. Where these control and prevention measures fail and subsidence results, adverse environmental effects will occur. However, it is not possible to determine where, when, and how much subsidence will occur as a result of failure of subsidence control and prevention measures. Therefore the magnitude of beneficial environment impacts of subsidence monitoring cannot be determined. Nationally the environmental benefits would be limited primarily to the midwest and eastern regions where underground mining operations are most prevalent.

Monitoring and early detection of subsidence could produce environmental benefits by minimizing both the size of the area affected and degree of subsidence. Early detection might produce direct environmental benefits by limiting the size of the area of subsidence because the mine operation could be stopped, or new subsidence control measures could be adopted in order to minimize further damage. This in turn could reduce potential damage to buried pipelines, utility power lines, highways, agricultural fields, buildings and other sensitive surface and subsurface structures and hydrologic and topographic features located in the area.

D. ESTABLISH A REGULATORY PROGRAM WITH LESS STRINGENT REGULATIONS

OSM could adopt requirements less stringent than the preferred alternative but still be authorized by the Act. Less stringent requirements would generally not provide as much environmental protection as the preferred alternative. The impact on the coal industry would probably be less severe in terms of its operating costs. Impacts on the States are uncertain. Damage to the environment could result because the regulatory authorities would have less assurance that the performance standards of the Act would be met, and in some instances the same degree of environmental protection would not be achieved. This could result in increased costs of enforcement and to repair environmental damage.

1. Three Categories of Less Stringent Regulations

The less stringent measures which OSM could adopt can be generally described by the following three categories: (1) Requirement of less environmental resource information for decisionmaking by the regulatory authority, (2) less comprehensive specification of design criteria for structures and facilities, and (3) wider range of options within standards and criteria. These less stringent alternatives would probably result in more adverse impacts to the environment than the proposed action. Economically, industry would probably benefit because the costs of complying with less stringent regulations would be reduced. However, State administrative costs might be increased as a result of the need for more analysis of conditions before a decision can be made.

Less stringent alternatives would generally mean that relaxed information and performance standard requirements would make operator compliance with the regulations easier; they would not have the burden of gathering the detailed environmental data required by the preferred alternative or be required to comply with specified design and performance standards. Similarly, State enforcement of some less stringent requirements might be easier, because fewer checks, assessments and decisions concerning the adequacy of submitted data or adherence to detailed design standards would be feasible. Less stringent requirements might also increase inspection and enforcement burdens by requiring more thorough review and analysis of required operator performance to ensure compliance with the Act. The level of environmental protection required by the Act would less likely be achieved under this alternative, because some of the more lenient alternatives might represent less than the best control technology currently available, thereby leading to degradation of the environment. The less stringent requirements might also be more difficult for the States to administer because the amount of information received by the regulatory authorities would be less detailed and they would have greater difficulty in evaluating the proposed actions and making a determination of their adequacy.

a. Requirement of Less Information for Decisionmaking by the Regulatory Authority

The preferred alternative requires detailed information and data to be submitted under various parts of the program so that the regulatory authority can make decisions for approving such things as mining plans, bond releases, or designating lands unsuitable for mining. Requiring less information would impair the ability of responsible State and Federal officials to identify and analyze impacts to the environment. Consequently, responsible decision-makers could be forced to delay or make uninformed decisions, thereby, jeopardizing human health, safety and environmental values. In some cases, such as a failure to identify important aquifers or wildlife resources, violation of the Act's prohibition against mining where reclamation is not possible could result from a lack of information.

Information requirements included in the preferred alternative impact both the mine operators and the regulatory authorities. In the short run, impacts on operators would be a reduction of the cost in workforce and money to obtain a permit; might be an increase in the coal reserves deemed economically minable. These impacts are more significant in the eastern region where there are a larger number of smaller operators. In the long run, however, the impacts on operators could be increased costs because information developed during mining necessitated modifications to ongoing operations or existing structures to avoid or mitigate harm to the environment or public health and safety. In some cases, these costs might include delays in production for the period required for correction and, if the harm was not correctable, cessation of operations with loss of reserves and bond forfeiture.

Less restrictive information requirements may have several impacts on regulatory authorities, one of the more important being its effect on the decision-making process. To make well-informed decisions, the regulatory authority must have a variety of resource and mining operation data readily available. If such information is deficient because of relaxed information submission requirements, it will require that the regulatory authority obtain supportive data using its own resources. This will require additional expenditures of manpower and financial resources and may result in inordinate delays for permitting or other State actions.

Inadequate data submission requirements may also cause increased environmental impacts. Environmental protection and enhancement is based on well-informed decisions. Where supportive data for such decisions are deficient adverse environmental impacts may often occur, the degree of impact depending upon the adequacy of the data base, the decision-makers' ability to recognize and temper decisions based on the available data, and the speed and ability of responsible officials to correct deficiencies causing adverse environmental impacts. To the extent the potential for adverse impacts are not assessed before operations proceed to the point where they cannot be avoided, such impacts can be long term and irreversible. Examples of such impacts might be loss of topsoil materials, undermining of valued resources that would be materially damaged by subsidence, destruction of major aquifers and hydrologic resources, and loss of productive capacity in prime farmland and alluvial valley floors.

b. Less Detailed Design Criteria for Structures and Facilities

Some regulations in the preferred alternative contain design criteria for certain structures and facilities. These design criteria are required to ensure construction of such structures and facilities in a manner which would protect the environment and the public health and safety.

The regulations in the preferred alternative on roads, impoundments, and waste disposal sites, for example, include such design criteria. If these regulations contained less comprehensive specification of design criteria, they could result in different levels of impacts. Incremental differences of specific impacts are difficult to quantify. It is likely, however, that less restrictive regulations would result in decreased water quality caused by increased erosion and sedimentation. Settling ponds and impoundments would be more susceptible to failure, thereby increasing the possibility of flooding downstream. Protection for human health and safety would also be reduced as a result of water quality degradation and the increased potential for dam failures and landslides. Also, less restrictive standards may affect aesthetics by making roads and waste disposal areas more conspicuous on the landscape.

Less restrictive design criteria for roads could have a favorable impact on vegetation and wildlife. Increased road grades, for example, require less road construction, thereby reducing the total acreage devoted to road beds, ditches, shoulders, and drainage structures. Consequently, vegetation and wildlife would be benefited.

Less restrictive design criteria would permit operators greater flexibility for structure design. This might result in reduced costs to the operator. If so, coal production costs would be reduced and operators might be encouraged to mine otherwise submarginal coal deposits. As discussed in paragraph (b) above, however, if inadequate designs resulted in adverse impacts on the environment or the public health and safety, costs could be increased by the corrective measures required.

c. Wider Range of Options Within Standards and Criteria

In some of the regulations in the preferred alternative, the regulatory authorities have flexibility to make determinations, based on their own knowledge and evaluations, as to which reclamation techniques should be used in particular situations to attain the required performance standard. If regulatory authorities are given more opportunity for discretion or flexibility, the results will be different environmental impacts than for the preferred alternative. The magnitude of change is unknown since it is difficult to estimate or predict how or to what extent the regulatory authorities will exercise the option. Where minimum standards are permitted, however, operators will benefit by reduced reclamation costs. In any case, the Act's minimum standards would have to be met.

By giving more flexibility to the regulatory authorities, costs could be higher or lower to both operators and the regulatory authorities depending on whether their determinations result in more stringent or less stringent requirements. Operators could incur greater or less expense in complying with the standards required. The regulatory authority could incur costs to a greater or lesser degree from the workforce and time needed to evaluate and specify more or less stringent standards in a greater number of specific cases.

Under this alternative, impacts to the physical environment are unknown and would vary in kind, degree, and extent depending upon each regulatory authority and its use of increased discretionary authority. Some regulatory authorities would wish to maintain a high standard of environmental protection, thereby adhering to stringent performance standards. Others might be less judicious in their application of relaxed standards, thus resulting in adverse impacts to water quality and quantity, wildlife, topography and other environmental components.

2. Examples of Less Stringent Regulations

D-1: Performance Standards (Section 515)

Alternative.—Promulgate regulations that implement the performance standards of the Act, but do not specify particular design criteria for achieving those standards. This differs from the preferred alternative which provides for a combination of minimum design criteria, various measures for achieving a particular standard, and discretion for States and mine operators to develop flexible criteria so long as applicable standards are met. The environmental impacts of the preferred alternative are discussed in Part B, Section III.

Impacts of the alternatives.—If the alternative regulations merely repeat the performance standards of the Act without requiring design criteria to implement certain standards, there would be no assurance that the environmental benefits intended by the Act would be achieved. (See Part B, Section III.) For example, without specific design criteria to follow, operators might construct sedimentation ponds which they believe will comply with the performance standards but which may later fail, causing significant damage to the environment. Repair of such damage would be costly and could be borne by either the operator or the public. Too, the damage could be of a nature which prohibits reclamation and cannot be remedied completely, resulting in long term, irreversible losses of resources.

Reliance on performance standards could result in markedly different methods of construction for fills, roads, ponds, ditches, dams, and the like among the States. Some of the effects of these different rules could be more or less sedimentation of streams, decreased air quality, loss of wildlife and wildlife habitat, and impacts to the aesthetics. Different levels of performance could also result from State to State, and operators could be subjected to different requirements depending upon the State where they operate. This is contrary to the Act's intent to impose uniform, national standards for surface coal mining and reclamation operations.

Regulations in the form of general performance standards provide greater flexibility to develop new, innovative techniques for accomplishing the desired goals and objectives. Means of achieving the requirements are not constrained by detailed, inflexible criteria, thus permitting the regulatory authorities and operators to collaborate in designing new methods, equipment, and processes. Certain performance standards are more adaptable to this approach. Air quality, for example, can be achieved and maintained by a variety of fugitive dust control techniques, including highly innovative ones which could lead to greater protection of air quality with less expense to coal operators. On the other hand, certain structures, such as head-of-hollow fills or impoundments, could cause disastrous and immediate environmental and health and safety consequences if they fail. Design criteria for such structures increase the probability that performance standards will continue to be met throughout the life of the operation and thereafter, in the case of permanent structures. For example, permanent roads, impoundments, spoil fills and waste piles will remain after mining is completed and have potentials for adverse impacts for indeterminate periods of time.

D-2: Permit Application Data Requirements (Section 507)

Alternative.--Do not require data and plans in the permit application which would demonstrate how the operator proposes to comply with the performance standards.

The preferred alternative requires detailed information on some topics to be gathered by the operator and submitted to the regulatory authority prior to mining in order to show how the operator proposes to comply with the performance standards and whether the standards can be met. These informational requirements include data concerning hydrology, vegetation, wildlife, subsidence, mapping; they provide a baseline or standard against which environmental impacts of mining can be measured.

Impacts of the alternative.—By not requiring detailed information in the permit application, the magnitude of the impacts on the environment would not be known with any degree of certainty. Not providing data concerning hydrology, mapping, vegetation, fish and wildlife resources, air quality, climate, soils, geology, and land use in permits would require less effort and expense by operators. Fewer manhours would be required by professional specialists such as hydrologists, geologists, mining engineers, agronomists, soil scientists, air quality experts, biologists, historians, and archeologists to gather necessary data on various environmental parameters for preparing permit applications during and after mining. Fewer man-hours spent by these professionals will necessarily result in lower costs to the operators who must hire the expertise to meet the requirements. The greater availability of the professionals as compared with their availability under the preferred alternative would also be a less adverse impact.

Since each mine would be subject to the same permit information requirements, the impacts of this alternative would be greatest in the East because of the greater number of mines in that region (U.S. Department of Energy, 1978s).

Lack of detailed information in the permit application will increase the possibility that the regulatory authorities might make faulty determinations in deciding whether to approve permit applications. The result would then be adverse environmental and public health and safety impacts because of inadequate protection during mining and reclamation. Some environmental damage could be irreversible, and after-the-fact activities to bring an operation into compliance with performance standards could cause more environmental harm than if the operations had been conducted initially in a manner that would ensure environmental protection. Increased cost might be incurred by operators in the long run because of the need to meet standards only after violations have been identified. This could also result in increased costs to the regulatory authorities and society to repair damages caused by improper mining methods that may be approved due to inadequate data and poor decisions made on that basis.

D-3: Fugitive Dust Controls (Sections 508(a)(9), 515(b)(4))

Alternative.—Not requiring fugitive dust controls or monitoring for fugitive dust.

The reader is referred to Part B, Section III, of this environmental impact statement for a discussion of the impacts of fugitive dust control in the preferred alternative. The difference between this alternative and the preferred alternative, which requires monitoring for certain mines and application of fugitive dust controls, is one of scope and enforcement. Generally speaking, an absence of prescribed measures for controlling recognized sources of fugitive dust is a less stringent regulatory measure.

Impact of the alternative.—The impact of not requiring fugitive dust controls and a monitoring plan would be to increase the ambient fugitive dust levels. From initial development to final reclamation, virtually every aspect of surface mining produces fugitive dust (Robins and others, 1977). Without fugitive dust controls for surface mining operations high-ground level concentrations of total suspended particulates (TSP) will occur offsite (U.S. Federal Energy Administration, 1976). These high concentrations may regularly exceed Federal and State 24-hour and annual average ambient air quality standards in the areas in and around the minesites (Murray, 1978), resulting in a degradation of the air quality of a region.

As an example of the impact of not regulating fugitive dust emission in the southwestern Wyoming area, existing and private production from proposed surface coal mines will be approximately 30 million tons/yr of coal by 1985. At an emission rate of 1.2 lb/ton, particulate matter emissions in this region would increase to approximately 18,000 tons/yr. This regional emission rate exceeds that of the Clean Air Act index which determines whether a source of pollution is a major emitting facility requiring air quality review and control. Under the Clean Air Act, any source with the potential to emit 250 tons/yr of any pollutant is defined as a major emitting facility.

Five proposed mines for southwestern Wyoming have been modeled to predict air quality impacts. The proposed surface coal mines for southwestern Wyoming, North Block (1.4 million tons/yr), Twin Creek (2.5 million tons/yr), South Haystack (3 million tons/yr), Long Canyon (2 million tons/yr), and Black Butte (6.3 million tons/yr) were projected to exceed the 24 hour primary national ambient air quality standard out to 1.2 miles (NB3-2), 1.4 miles (TC3-2), 2.4 miles (SH3-2), 2.4 miles (LC3-2), and 3.8 miles (BB3-2) respectively. Thus, in the absence of adequate control measures, as required by the State of Wyoming and as would be required by the preferred alternative, surface mining would result in deterioration of air quality standards (U.S. Department of the Interior, 1978).

D-4: Control and Reclamation of Offsite Processing Plants (Section 701(28))

Alternative.—Do not include the control and reclamation of coal processing plants and support facilities not located within the permit area for a specific mine in the regulatory program.

The preferred alternative requires permits and compliance with performance standards for off-site coal processing plants and support facilities. The environmental impacts of the preferred alternative have been analyzed in Section B.III of the EIS. The alternative analyzed here is the impacts of excluding from regulation coal processing plants and support facilities which are not located within the permit area from the requirements of the permanent regulations.

Impacts of the alternative.—Coal processing plants, generate numerous adverse impacts. They include: (1) fugitive dust due to transport from the mine and driers, (2) water drainage from stockpiles and wash effluents, and (3) disturbance to vegetation, soils, and wildlife habitat due to plant facilities and stockpiles. If facilities outside the permit area were not regulated, operators could locate new processing plants outside the permit area, and the above adverse impacts would continue except when controlled by other Federal and State regulations (see Section BIIC for discussion of these regulations. If or to what extent such shifts would occur cannot be predicted since shifting would be dependent upon the costs of plant sites and transportation versus the costs of complying with the performance standards within the permit area. If the plants and facilities are located off the areas under permit, the effects on the environment may be greater.

D-5: Effluent Standards for Water Quality (Section 515(b)(10))

Alternative.--Adopt the effluent standards of the U.S. Environmental Protection Agency (EPA) for the National Pollution Discharge Elimination System (NPDES) permit.

The environmental impacts of OSM's preferred alternative for effluent standards in general are analyzed in Part B, Section III. The alternative described here analyses the impacts of applying the EPA effluent standards to satisfy the requirements of SMCRA.

Impacts of the alternative.--The EPA effluent standards (40 CFR 434) apply only to the active phase (or point source discharges) of mining operations. The preferred alternative differs by extending these effluent standards to nonpoint source discharges during and after the active mining phase. Under the EPA standards, discharges from areas disturbed after final grading (i.e. after completion of coal removal) could enter both surface and groundwater supplies without passing through sedimentation ponds or treatment facilities. Throughout the mining operations, groundwater supplies would also be subject to degradation. Runoff from all aspects of the mine operation, including solid waste and coal processing waste disposal areas, could enter the surface- and ground-water supplies. Adoption of the alternative would result in maintaining existing levels of water quality protection currently regulated under the EPA-NPDES permit system. The adverse impacts on water that occur before and after active coal removal would continue to occur.

D-6: Backfilling and Grading: Covering Coal and Acid- and Toxic-Forming Materials (Section 515(b)(14))

Alternative.--Allow less than 4 feet of cover over toxic materials. The general environmental impacts of the preferred alternative are discussed in Part B, Section III. This alternative analyzes whether less than 4 feet of cover could be sufficient to protect water quality, support plant growth, provide for future land use, and prevent sustained combustion.

Impacts of the alternative.--The impacts of allowing less than 4 feet of cover over acid-forming or toxic-forming materials relate to a decrease in thickness of available material suitable for plant roots, a decrease in the thickness of the oxygen barrier, an increased probability of exposure of the covered material by erosion or landslides, and an increased probability of upward migration of salts under certain conditions.

Oxidation of acid-forming material can result in low soil pH which excludes plant roots and thereby diminishes the thickness of soil material available for extraction of water and of nutrients by the plant roots. Since the roots of trees and of many of the common grain and forage crops extend to depths of 4 feet or more (Bear, 1953), a cover of less than 4 feet over acid- or toxic-forming material would reduce the suitability of the site for many plants and would result in a high probability that premining productivity could not be achieved. This adverse impact would have long-term national implications.

In the western region where root penetration may be less than 4 feet due to shallow soils or low precipitation, a cover of less than 4 feet over acid-forming material might be tolerated. Upward migration of salts in these soils are commonly observed problems, however, and must be considered. Where salt migration does not present a problem, less than a 4-foot cover could be tolerated without adverse impact.

Erosion can remove soil cover at varying rates depending on many factors. The less the soil cover, the higher is the probability that acid- or toxic-forming material will be exposed by erosion and thus adversely affect plant growth and contribute to acid drainage affecting aquatic wildlife. Many semi-arid western areas are subject to high intensity storms which may result in the cutting of deep arroyos and gullies of considerable erosion potential. In this case, less than a 4-foot cover could represent a potential for increased adverse environmental impacts.

SECTION V: PUBLIC COMMENTS, CONSULTATION, AND COORDINATION

A. Public Comments

A public meeting was held by OSM on August 2, 1978, to solicit comments and recommendations concerning the scope, content, and format of the environmental impact statement. Written public comments on the meeting topic were accepted by OSM through August 14, 1978. Letters received during this period were considered together with the written comment period on the draft.

Public hearings on the draft EIS were held in Washington, D.C., on October 31, 1978; in Indianapolis, Indiana, on Novem ber 1, 1978, and in Denver, Colorado, on November 2, 1978. Those hearings were announced through newspaper articles, TV and radio, solicitations and Federal Register notices. Seven persons presented oral or written testimony at the hearings.

In addition, public hearings regarding the proposed regulations and the regulatory analysis were held in Washington, D.C.; Charleston, West Virginia; Knoxville, Tennessee; Indianapolis, Indiana; Kansas City, Missouri; and Denver, Colorado; during the period October 24-27, 1978. All comments on the draft environmental statement received at the public hearings were considered in preparation of this EIS.

The issues raised by these comments are included in the comment and responses in Appendix A.

B. Consultation and Coordination in the Preparation of the Environmental Statement

This statement was prepared under the direction of the Office of Surface Mining, Department of the Interior. Individuals with special expertise in the relevant fields, who participated in the drafting of the regulations, preamble and regulatory analysis, provided information and additional data to the task force preparing this EIS.

C. Review of Draft Environmental Statement

Copies of Draft Environmental Impact Statement were sent to the following Federal and State agencies including all State Clearinghouses listed in OMB Circular A-95. Additionally, over 1,700 other interested individuals and orginizations were notified by postcard of draft statements availability. In total over 5,500 copies of the statement were distributed for review and comment. Those Federal and State agencies commenting on the draft are indicated by asterisk.

Federal

Department of the Interior

Bureau of Indian Affairs
*Bureau of Land Management (Washington Office, and Wyoming State Office)
Bureau of Mines
Bureau of Reclamation
Fish and Wildlife Service
Geological Survey
Heritage Conservation and Recreation Service
National Park Service
Office of Minerals Policy and Research Analysis
Office of Water Research and Technology

Other Federal agencies:

*Department of Agriculture (Forest Service)
*Department of Commerce (as part of the Regulatory Analysis Review Group)
Department of Defense
Department of Energy
*Department of Health, Education, and Welfare
*Department of Housing and Urban Development
Department of Labor
Department of Transportation
Appalachian Regional Commission
Community Services Administration
Council on Historic Preservation
Council on Wage and Price Stability
*Environmental Protection Agency
General Services Administration
Interstate Commerce Commission
Office of Management and Budget
River Basin Commissions (as geographically appropriate)
Tennessee Valley Authority
Water Resources Council

State

Alabama Surface Mining Reclamation Commission
Alaska Department of Natural Resources
Arizona State Land Department
Arkansas Department of Pollution Control and Ecology
California Department of Conservation
Colorado Department of Natural Resources
Connecticut Department of Environmental Protection
Delaware Department of Natural Resources
Florida Department of Land and Natural Resources
Hawaii Department of Land and Natural Resources
Idaho Department of Lands
Illinois Department of Mines and Minerals
Indiana Department of Natural Resources
Iowa Department of Soil Conservation
Kansas State Corporation Commission
Kentucky Department of Natural Resources
Louisiana Office of Conservation
Maine Department of Environmental Protection
Maryland Energy and Coastal Zone Administration
Massachusetts Department of Public Works
Michigan Department of Natural Resources
Minnesota Department of Natural Resources
Mississippi Geological, Economic and Topographical Survey
Missouri Department of Natural Resources
Montana Department of State Lands
Nebraska Office of State Planning and Programming
Nevada Department of Conservation and Natural Resources
New Hampshire Department of Forests and Lands
New Jersey Bureau of Geology and Topography
New Mexico Bureau of Mines and Mineral Resources
New York Department of Environmental Conservation
North Carolina Department of Natural Resources and Community Development
North Dakota Public Service Commission
Ohio Department of Natural Resources
Oklahoma Department of Mines
Oregon Department of Geology and Mineral Industries
Pennsylvania Department of Environmental Resources
Rhode Island Department of Administration
South Carolina Department of Mining and Reclamation
South Dakota Department of Agriculture
Tennessee Department of Conservation
Texas Railroad Commission
Utah Railroad Commission
Vermont Agency of Environmental Conservation
Virginia Department of Conservation and Economic Development
Washington Department of Natural Resources
West Virginia Department of Natural Resources
Wisconsin Department of Natural Resources
Wyoming Department of Environmental Quality

As a result of the above efforts to solicit comments on the draft statement, 46 comment letters have been received by OSM and are in Appendix B.

State Agency Comments

*Arizona State Clearinghouse
*Colorado Department of Local Affairs
*Indiana State Board of Health
*Louisiana Department of Natural Resources, Office of Conservation
*Louisiana Department of Natural Resources, Office of Forestry
*Louisiana Department of Urban and Community Affairs
*Louisiana Office of Science, Technology and Environmental Policy
*Maryland Department of State Planning
*Mississippi Clearinghouse for Federal Programs
*Mississippi Office of Administration
*North Dakota State Planning Division
*Virginia Council on the Environment
*Washington Department of Ecology
*Washington Department of Transportation
*West Virginia Office of Economic and Community Development

In addition, comments were also received from the following entities.

Amax Coal Company
American Natural Service Company
Association of Central Oklahoma Governments
Carbon Fuel Company
Consolidation Coal Company
El Paso Coal Company
Joint Committee of the National Coal Association and the American Mining Congress
Old Ben Coal Company
Peabody Coal Company
Phillips Coal Company
Southeast Kansas Regional Planning Commission
Utah International, Inc.
Virginia Surface Mine and Reclamation Association
VOSCO, Inc.
Westmoreland Resources, Inc.

Pursuant to Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. §470f), the Office of Surface Mining has consulted with the Advisory Council on Historic Preservation regarding the proposed action. The Advisory Council prepared comments on the proposed regulations dated Sepember 18, 1978 (43 FR 41662) but did not comment on the content of the draft environmental impact statement. The Advisory Council's letter follows.

**Advisory
Council On
Historic
Preservation**

1522 K Street N.W.
Washington D.C.
20005

November 27, 1978

Office of Surface Mining
Department of the Interior
P.O. Box 7267
Benjamin Franklin Station
Washington, D.C. 20044

Dear Sir:

The Advisory Council on Historic Preservation has reviewed the proposed rules for the permanent regulatory program concerning surface coal mining and reclamation, published at 43 FR 41662 (September 18, 1978) and met with representatives of the Office on November 2, 1978, to discuss the regulations.

In general, we believe that the proposed rules should be more explicit in regard to the identification of historic and cultural resources that may be affected by surface mining activities. This identification process should include a survey requirement designed to locate properties that may be listed in or eligible for listing in the National Register of Historic Places. Such an approach would more clearly establish the relationship between surface mining activities to be authorized and the statutory requirements of the National Historic Preservation Act and Section 9(a) of the Mining in National Parks Act and thus set limitations on the category of historic and cultural resources which must be considered in developing the various mining plans. Identification requirements should be explicit throughout the rules.

A number of parts contain sections detailing information requirements for effects of mining activities on such aspects of the environment as air pollution and fish and wildlife that must be included in mining plans. In order to be consistent with the requirements of Federal statutes relating to historic and cultural resources, a separate section on these resources should be included. Such sections should be added, at a minimum, to Parts 779, 816 and 817.

In addition to this general comment, the Council has several comments to offer on specific sections.

1. Section 761.12(f) requires the regulatory authority to transmit the permit application to Federal agencies "with jurisdiction over or interest in" the historic place which may be adversely affected by mining for approval or disapproval. In order to clarify the question of jurisdiction we strongly suggest that the section be reworded to provide that the Advisory Council on Historic Preservation and the State Historic Preservation Officer are deemed to be "agencies with jurisdiction." Such an amendment would serve to clarify what may be a cause for confusion.

2. Section 761.11(c) concerns adverse effects on "any public park or any places included on, or eligible for listing in the National Register." At the meeting with representatives of the Office of Surface Mining on November 2, 1978, we raised the question as to whether "public" modified only "park" or also "places included on ... the National Register." It is our understanding as a result of that meeting that "public" is meant only to modify "park."

In addition, this section should be coordinated with the requirements of Section 106 of the National Historic Preservation Act as implemented by the Council's regulations published at 36 CFR Part 800. The Council's regulations basically provide a mechanism for assessing the impact of a proposed action on resources listed in or eligible for listing in the National Register and for weighing the public interest in a proposed action. Specific inclusion of the Council compliance process in this section will serve to clarify existing relationships and ease duplicative jurisdiction. This could be accomplished by adding the following clause after "Historic Places ..." "the comments of the Council have been obtained in accordance with 36 CFR Part 800 and ...."

3. The proposed regulations make no provisions for situations in which an applicant acts to destroy historic or cultural resources prior to submitting his application for Federal approval in the knowledge that he may be subject to certain requirements following submission. Other Federal agencies have taken steps to deny a permit or grant in similar situations. A policy statement should be added to the regulations to specify that destruction of historic and cultural resources prior to the submission of an application will not be permissable.

4. The Preamble discussion of the content of Section 700.4 states that other agencies, to be specified in the section, concerned with historic and cultural values will be consulted by the Director prior to taking actions which could affect these agencies' responsibilities. However, in the actual text of the section there is no such list of agencies. This should be clarified in the final regulations.

5. Subchapter G, Part 770 concerns general requirements for permit systems under State programs and Section 770.12 sets forth requirements for compliance with other laws. Subsection (c) of that section should include explicit reference to the requirements of Section 9(a) of the Mining in National Parks Act (90 Stat. 1343). That section requires the Secretary of the Interior to seek the comments of the Council whenever any national historic landmark or natural landmark is threatened by surface mining activities. This is a separate and distinct responsibility from the other compliance responsibilities to consult with the Council under Section 106 of the National Historic Preservation Act and directly impacts activities which may be undertaken as a result of these proposed regulations.

6. Part 732 concerns procedures and criteria for approval or disapproval of program submissions by States. Section 732.13(g) states, in part, "A program submission shall not be finally approved unless it can be approved in whole." Because of the relatively short period that States have to develop and submit plans following promulgation of final regulations and the fact that some States may lack legal capacity to carry out some of the required environmental and historic preservation review responsibilities, we believe that this section should be amended. Such an amendment would allow the Secretary to conditionally approve State plans if the environmental and historic preservation requirements would be maintained on the Federal level until States with conditionally approved plans are able to develop the capacity and mechanism for complying with environmental and historic preservation review requirements.

The Council will be pleased to offer assistance in implementing these comments. Please advise us of the manner in which our comments will be addressed. If you desire further information please contact Mr. Peter Smith, Assistant Director, Office of Intergovernmental Programs and Planning at 202-254-3495.

Sincerely yours,

(signed Kenneth C. Tapman)

(for)Robert M. Utley
Deputy Executive Director

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Appendixes:

A. Response to comments received on the draft EIS

B. Comment letters (reproduced in the form originally received by OSM)

C. Preferred alternative

APPENDIX A

Response to Comments Received on the draft EIS

The purpose of the EIS is to identify and analyze the impacts of the preferred alternative and alternatives thereto. Substantive comments on the draft EIS have been analyzed and responses drafted as appropriate. Responses and letters of comment are included in Appendix A and B, respectively.

Where comments on the proposed regulations were included with comments on the draft EIS they are being considered in the final rulemaking process. Those comments will be addressed in the preamble to the final rules and are, therefore, not included in this appendix.

Numerous commentors made only general statements of disagreement with the EIS without support, or raised issues involving legal questions not related to the EIS in their comments. Some commentors suggested that the EIS justify all or portions of the regulatory program and requested that the EIS demonstrate the balancing between needs for environmental protection and needs for coal recovery. In addition, many commentors expressed their opinion on the need for the program. Because these types of comments are not on the adequacy of the analysis of the impacts of the preferred alternative and alternatives thereto, they are not specifically identified and responded to in this appendix. Those comments were, however, considered. Where comments of this type are closely interrelated with substantive comments on the EIS, they have been identified and responded to below.

In addition, many comments were editorial in nature, pointing out words or phrases that were used incorrectly or used in a manner that implied an incorrect conclusion. All of these types of comments were considered and changes made as appropriate.

COMMENT NO. 1

The draft EIS does not provide an adequate basis for analysis of the impacts of the permanent regulatory program. Some commentators felt that the draft EIS failed to recognize existing State programs. As a result, the draft EIS described all environmental benefits as resulting from the permanent regulatory program. EIS analyses identified as overstating the benefits because existing State regulations were not adequately addressed include fish and wildlife, contemporaneous reclamation, prime farmlands, water and aquatic resources.

Comment Raised By:

American Natural Service Co.
Utah International
Carbon Fuel Co.
Bureau of Land Management, Wyoming
Amax Coal Co.
West Virginia Office of Economic and Community Development
Joint Committee of the NCA/AMC
Virginia Council on the Environment
Virginia Surface Mining and Reclamation Association
Consolidation Coal Co.
Old Ben Coal Co.

Response:

Part A. Section I of the draft EIS stated that OSM is aware of existing State regulatory programs and their effectiveness in controlling the impacts of surface coal mining. Additional clarification has been added in Part A, Section I of the EIS, and additional analyses have been added throughout Section B.III where information on existing State regulation of coal mining is available.

COMMENT NO. 2

The draft EIS does not consider the direct, indirect, and cumulative impacts of the permanent regulatory program and existing State mining programs and other Federal programs, including air, water, and solid waste programs promulgated by EPA.

Comment Raised By:

Utah International
El Paso Coal Co.
Virginia Council on the Environment

Response:

Direct and indirect impacts of the permanent regulatory program have been refined or corrected in response to public comments in the EIS.

OSM believes there will be few cumulative impacts from the preferred alternative when compared to existing State and Federal programs. With respect to air quality, EPA does not regulate fugitive dust from coal mining operations (see Part B, Section I.A.5 and the response to Comment No. 38) although that agency is currently developing best available control technology (BACT) for such operations.

As is demonstrated in the response to Comment No. 55, the preferred alternative will result in far more comprehensive regulation of water discharges from coal mining operations than presently exists under EPA regulations. While there will be some cumulative impacts, these impacts will be mitigated to the extent possible pursuant to a forthcoming memorandum of understanding between OSM and EPA.

With respect to solid waste, there is currently no cumulative impact because EPA has not yet promulgated regulations under the Resource Conservation and Recovery Act which would apply to wastes from coal mining operations. (see response to Comment No. 55).

COMMENT NO. 3

The draft EIS fails to properly and thoroughly consider regional effects. The regional effects are slanted toward the East.

Comment Raised By:

Phillips Coal Co.
Consolidation Coal Co.
West Virginia Office of Economic and Community Development
Joint Committee of the NCA/AMC

Response:

The EIS has been reviewed and revised to assure that regional impacts are analyzed in a proper perspective. As shown in Table B5, about 90 percent of existing mining operations are in the East. Further, this EIS does not include the Federal lands program which accounts for a substantial amount of the mining in the West. Therefore, the EIS will necessarily reflect eastern mining conditions more than other regions of the nation.

COMMENT NO. 4

A permit program is required but will be implemented by the Department of Interior.

Comment Raised By:

Washington State Department of Ecology

Response:

The permanent regulatory program will require a permit to mine, but the permit program may be administered by a State under an approved State program. If the State elects not to prepare a program or is unable to submit a program that can be approved, OSM is required to develop and implement a Federal program for that State. In those instances, OSM will administer the permit program for that State.

COMMENT NO. 5

The draft EIS does not adequately assess the impacts that will occur in Louisiana.

Comment Raised By:

Louisiana Department of Natural Resources

Response:

The EIS is on a programmatic level and is focused on national and regional changes. Although not subject to the EIS requirements of NEPA, State variations will be considered during the process of approval of State programs.

COMMENT NO. 6

The draft EIS is an advocacy document which justifies the proposed action rather than analyzing the environmental effects of the action. The draft EIS does not adequately address adverse impacts of the regulations.

Comment Raised By:

Amax Coal Co.
Consolidation Coal Co.
West Virginia Office of Economic and Community Development
Joint Committee of the NCA/AMC
Virginia Surface Mining and Reclamation Association
U.S. Department of Agriculture, Forest Service

Response:

The EIS has been reviewed and revised to correct statements of an advocacy nature and correct errors. Further, impact analyses and conclusions have been re-evaluated and revised as appropriate to clearly identify and analyze both beneficial and adverse impacts.

COMMENT NO. 7

Many statements in the draft EIS are based on outdated information or references, or misinterpretations, or misunderstandings of references. Some references are unnecessarily cited or not cited in the bibliography, and many statements are based on conjecture or are not technically supported.

Comment Raised By:

Consolidation Coal Co.
Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development
Utah International, Inc.

Response:

OSM has reviewed the descriptions of impacts of mining, and analysis of impacts of the proposed regulatory program, to correct any errors or misstatements that may have led to reader misunderstanding of the EIS discussions or EIS structure. Every effort has been made to assure that statements are factual. Where analyses are speculative, they are so qualified. References have been reviewed and revisions made as necessary. The bibliography has been corrected accordingly.

Several commentors identified specific references and use of those references in Part B, Section III.A.4.a. That section is a description of the impacts of mining on water, not the analysis of impacts of the proposed regulatory program. The purpose of the description is to establish an understanding of the existing environmental conditions. Therefore, past mining practices and abandoned mined lands, including the resulting environmental degradation, are appropriate since they contribute to an understanding of the existing environmental setting. Revisions have been made in the text to reflect this use of the information.

COMMENT NO. 8

The impact assessment does not give perspective to the impacts. The draft EIS does not adequately analyze the environmental consequences of the permanent regulatory program in terms of magnitude, scope, duration, and probability of impacts.

Comment Raised By:

Consolidation Coal Co.
Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development
Virginia Surface Mining and Reclamation Association
Amax Coal Co.

Response:

The text analysis has been revised to delete the terms major, minor and negligible in the discussion of impacts of individual components of the program. The impact analyses have been reviewed and additional supportive analyses of magnitude, scope, duration and probability have been added where appropriate and possible. At the programmatic level of analysis, it is neither appropriate nor possible to specify the scope, magnitude, duration and probability of impacts for all individual components of the preferred alternative.

COMMENT NO. 9

The tables which accompany the impact discussion (for example, Table B8, Impact of the regulations on air resources protection) are of limited value.

Comment Raised By:

West Virginia Office of Economic and Community Development
Joint Committee of the NCA/AMC

Response:

The tables which appeared in Part B, Section III have been eliminated. Substantive comments from the public on these tables have been considered as if the comments were directed to the text.

COMMENT NO. 10

OSM appears to be attempting to remedy deficiencies in the draft EIS by incorporating the preamble to the proposed regulations by reference.

Comment Raised By:

Joint Committee on the NCA/AMC
Peabody Coal Co.

Response:

The preamble to the proposed rules provides descriptions of the proposed regulations and the alternatives considered prior to issuance of the proposed regulations on September 18, 1978. Revisions have been made to clarify the reference to the preamble and it is no longer incorporated by reference. (see Part A, Section I, Introduction). Readers of the EIS may desire to also read the preamble for its discussion of the more detailed provisions of the proposed rules which are not appropriate for discussion in the programmatic EIS.

COMMENT NO. 11

The draft EIS is incorrect in stating that costs generally discussed in the EIS are more fully described in the Regulatory Analysis.

Comment Raised By:

Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

The scope of the EIS includes the entire proposed permanent regulatory program required by Section 501(b) of SMCRA. The scope of the Regulatory Analysis deals with selected alternatives to specific components within the permanent program. The scopes of the two analyses are different because of differing requirements and authorities requiring the two studies. There has been a change in the text of the final EIS to more fully describe the scope of the RA (Part B, Section I.B.)

COMMENT NO. 12

The draft EIS does not contain a cost-benefit analysis.

Comment Raised By:

Old Ben Coal Co.
American Natural Service
Virginia Council on the Environment
Peabody Coal Co.
Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

OSM does not believe that preparation of a cost-benefit analysis is required under NEPA. OSM's obligation to study the costs of the preferred alternative is contained in Presidential Executive Order No. 12044. That order requires preparation of a "regulatory analysis"; OSM has prepared a draft Regulatory Analysis and a final Regulatory Analysis will be available shortly after publication of the final EIS.

COMMENT NO. 13

The draft EIS and the draft Regulatory Analysis have different production estimates for 1985 and different trends in the ratio of underground to surface mining by region.

Comment Raised By:

Amax Coal Co.

Response:

The EIS estimate for coal production in 1985 is given as a range from 990.2 to 1,188.2 million tons (Table B4). The draft Regulatory Analysis uses a mid-range estimate of production (Table 20) which falls within the range given in the EIS. The difference in the ratio of the production trends by regional breakdown occurs because the draft Regulatory Analysis analyzes production on a different regional basis than the EIS (see Figure 1 in the EIS and Figure 8 in the draft Regulatory Analysis).

COMMENT NO. 14

The statement that costs of compliance of the regulations will be internalized by the coal companies (page AV-1 of the draft EIS) is misleading.

Comment Raised By:

American Natural Service Co.
Amax Coal Co.
Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

Additional language has been added to the final EIS which clarifies the impact (Part A, Section V) of compliance with OSM's proposed regulations.

COMMENT NO. 15

The statement that the permanent program regulations provide an opportunity for improving mining efficiency and production because of the future regulatory certainties is an assertion that is unsupported in the EIS.

Comment Raised By:

Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

OSM believes that the uncertainty in the mining industry existing over the past few years of the ultimate status of a national set of minimum standards may have had an adverse impact on mining efficiency and productivity. Both mining companies and States may have been unable to effectively plan ahead without the full knowledge of the kind of Federal regulatory program they would be operating under. However, the language has been deleted.

COMMENT NO. 16

The draft EIS should evaluate enforcement rather than assume it.

Comment Raised By:

Carbon Fuel Co.

Response:

The Office does not have information which would enable estimation of the number of operators who cannot or will not comply with the regulations. Therefore, OSM assumes compliance as stated in Part A, Section I. It is unreasonable to assume violation of Federal law.

COMMENT NO. 17

The EIS does not demonstrate a reasonable balancing of environmental and other considerations in its choice of the proposed action over alternatives.

Comment Raised By:

Joint Committee of the NCA/AMC
Peabody Coal Co.
West Virginia Department of Economic and Community Development
Consolidation Coal Co.

Response:

The analysis of alternatives has been revised to reflect the balancing of environmental and other considerations where appropriate. OSM's choice among the alternatives, including the preferred alternative, remains subject to the decision-making process.

COMMENT NO. 18

Statements contained in the draft EIS concerning the DOI Federal Coal Management Program EIS and Regional Coal Environmental Impact Statements are inaccurate.

Comment Raised By:

Bureau of Land Management

Response:

The text of the draft EIS has been revised in response to these comments. (see Part B, Sections I.B.4, I.B.5. and II.D.1.)

COMMENT NO. 19

The tabulation of State program requirements (Table B7) in Part B, Section II is outdated.

Comment Raised By:

American Natural Service Co.

Response:

This Office believes that use of the Imhoff table (published in 1976) is warranted. The table represents the most recent usable study available to the Office which (a) is a complete and thorough study of all States at one point in time; (b) organizes the information so that it is understandable and useful to the lay person; and (c) organized so as to highlight significant requirements of the Act in a usable form for decision-making.

COMMENT NO. 20

The EIS should expand discussion to include open pit and contour mining.

Comment Raised By:

Arizona State Clearinghouse

Response:

This discussion is covered in the EIS. (See Part B, Section II.)

COMMENT NO. 21

The draft EIS does not differentiate between the impacts of underground and surface mining operations. The impacts of sedimentation, disposal of potential acid producing wastes, costs of handling water quality problems, water seeps into aquifers and surface water sources, and hydrology in general, were specifically identified.

Comments Raised By:

Joint Committee of the NCA/AMC
El Paso Coal Co.
Peabody Coal Co.
West Virginia Office of Economic and Community Development
Amax Coal Co.
U.S. Department of Commerce
Consolidation Coal Co.

Response:

The EIS has been reviewed and, where the impacts of underground and surface mining differ significantly, they are analyzed separately. See, for example, Part B, Section III.A.4 (Water) and throughout Section III of Part B.

COMMENT NO. 22

The EIS does not adequately discuss the impacts of the permit procedures.

Comment Raised By:

Joint Committee of the NCA/AMC
Amax Coal Co.
West Virginia Office of Economic and Community Development

Response:

The effects of the permit requirements are generally addressed in Part B, Sections III.B.8 and III.C.2. Certain aspects of the requirements are discussed in various other sections of Part B. The scope of the EIS is analysis of the program and its impacts, not the impacts of individual elements.

COMMENT NO. 23

The EIS does not adequately address the adverse impacts of certain construction or reclamation activities which the regulations require. Examples include stream diversions, impoundments, topsoil handling, sedimentation ponds, construction and removal of roads, and compaction and layering requirements, which will cause an increase in the size of refuse banks.

Comment Raised By:

Amax Coal Co.
Utah International, Inc.
Virginia Council on the Environment
Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

Adverse impacts of the preferred alternative are discussed in nearly every section of Part B, Section III. (see also Part A, Section IV). For example, OSM recognizes that over the short-term the soil handling requirements would cause an increase in the production of sediment and fugitive dust. However, over the long-term the increased quality of the reclaimed soil for the support of plants would create a more complete vegetative cover. Thus, the long-term sediment and dust yield would be reduced as a result of the regulations.

COMMENT NO. 24

Most State laws currently require contemporaneous or concurrent reclamation. There is nothing in the proposed regulations which suggests reclamation will occur more promptly than under pre-Act standards.

Comment Raised By:

West Virginia Office of Economic and Community Development
Joint Committee of the NCA/AMC

Response:

The final EIS has been revised to reflect that the intent of the discussion was that degradation of water resources will be reduced because of requirements for prompt revegetation (Part B, Section III.A.4b(4). The impacts of the preferred alternative on revegetation are discussed in Part B, Section III.B.3.

COMMENT NO. 25

The draft EIS fails to discuss the environmental impacts of reconstructing existing nonconforming structures, such as haulroads, coal waste piles and fills, to meet permanent program performance standards.

Comment Raised By:

Carbon Fuel Co.
West Virginia Office of Economic and Community Development
Joint Committee of the NCA/AMC

Response:

The final EIS, in Part B, Section III.C, has been revised to include analysis of the impacts caused by reconstructing or modifying existing, nonconforming structures.

COMMENT NO. 26

The draft EIS lacks an analysis of the impact of the designating lands regulations on recovery of coal resources. The potential adverse effects of the petition process for designation of lands is not analyzed.

Comment Raised By:

Amax Coal Co.
Virginia Council on the Environment

Response:

The effect of the designation regulations on coal recovery is discussed in Part B, Section III.B.8. It is impossible to quantify the impact of the petition designation process because OSM has no way of estimating how many petitions will be submitted or will result in designations by the State regulatory authorities.

COMMENT NO. 27

Who determines which lands cannot be returned to a suitable esthetic condition? (page AIII-8 of the draft EIS.)

Comment Raised By:

Bureau of Land Management, Wyoming

Response:

The regulatory authority makes such determinations pursuant to the requirements of the preferred alternative.

COMMENT NO. 28

The statement, "Lands which cannot be reclaimed will not be mined" needs further definition or clarification (page BIII-109 of the draft EIS).

Comment Raised By:

Bureau of Land Management, Wyoming

Response:

In response to this comment the language has been changed to read, "Lands on which reclamation is not technologically and economically feasible will be designated unsuitable for mining pursuant to petition." (See Part B, Section III.B.2.) The statement is based on Section 762.11(a) of the preferred alternative.

COMMENT NO. 29

The figure of 1750 tons/year (draft EIS, page BIII-1) should be clearly labeled as an approximation; the reference makes clear that there is great variation in fugitive dust emissions from mine to mine.

Comment Raised By:

Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

The discussion of air quality (Part B, Section III.A) has been revised to clearly state the range of figures and that there is variation among mines.

COMMENT NO. 30

The statement that air quality standards may be exceeded "for some miles downwind" (draft EIS, page BIII-2) is too subjective. Other impact statements state that fugitive dust falls out in the immediate vicinity of the mine.

Comment Raised By:

Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

The discussion of air quality (Part B, Section III.A) has been revised to state that some fugitive dust particles settle to the ground quickly while others may be transported up to 20 km from the mining operations.

COMMENT NO. 31

OSM has failed to recognize that the natural background levels of fugitive dust especially in the West, already exceed the established standards.

Comment Raised By:

Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

Current upwind-downwind monitoring techniques for area type sources such as fugitive dust sources at coal mines specifically account for background (upwind) levels of total suspended particles. (see, for example, Table B11 and accompanying text.) When monitoring is required by the regulatory authority an appropriate system may be established to gather and analyze ambient fugitive dust levels as well as those fugitive dust levels existing on the downwind locations of the mining operations.

COMMENT NO. 32

The draft EIS (draft EIS, page BIII-2) does not provide technical documentation to support adverse impacts of fugitive dust on vegetation.

Comment Raised By:

Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

The discussion has been revised and referenced.

COMMENT NO. 33

Placement and storage of topsoil and construction of diversions required by the proposed regulations cause additional lands to be disturbed which would result in added impacts on air quality. This subject is not discussed in the draft EIS.

Comment Raised By:

Amax Coal Co.
Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development
American Natural Service Co.

Response:

The Office has reviewed the discussions of impacts of fugitive dust and erosion caused by the proposed regulations governing placement and storage of topsoil and construction of diversions. Although impacts of this nature will be more or less short term or temporary, the EIS has been revised to adequately reflect such impacts. (Part B, Section III.A).

COMMENT NO. 34

The statement that models and emission rates have been developed to predict air quality impacts is inaccurate. (draft EIS, page BIII-2).

Comment Raised By:

Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

Existing air quality models and related emission factors for fugitive dust sources are not yet developed to the extent that they are entirely applicable to point sources; however, they are developed to the point that they can be used to make estimates of air quality impacts based on predicted ambient concentration of total suspended particulates. At least one State (Wyoming) requires such modeling as part of permit applications. In addition, the Bureau of Land Management normally models particulate air quality impacts for its environmental statements for proposed surface coal mines. In response to the concern raised in comments in the EIS about the availability of modeling, OSM has deleted from the preferred alternative the requirement for air quality reviews which would include modeling.

Since the preferred alternative does not require modeling of ambient air quality conditions, the discussion of model availability has been deleted. (see Part B, Section III.A.)

COMMENT NO. 35

The draft EIS (pages BIV-15 and BIV-16) does not reflect OSM's awareness of State air pollution control plans, specifically the State of Wyoming, as indicated by the use of information from the Southwestern Wyoming draft EIS.

Comment Raised By:

Joint Committee of the NCA/AMC

Response:

The data in the draft EIS, Part B, Section IV.D was referenced to the Bureau of Land Management's Southwestern Wyoming draft EIS. The purpose was to illustrate the potential impact of fugitive dust from mining operations on the surrounding region. OSM is familiar with Wyoming's air pollution control agency which requires modelling, monitoring and employment of fugitive dust control measures.

COMMENT NO. 36

The draft EIS does not cite technical references to support the effects of NO_x emissions on the ambient air quality, caused by blasting.

Comment Raised By:

Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

The regulations are directed toward control of fugitive dust emissions; a portion of which is generated by blasting of overburden and coal. Because NOx emissions are not covered under the permanent regulations, the discussion of NO_x emissions has been deleted from Part B, Section III.A.

COMMENT NO. 37

The draft EIS states (page BIII-1, Paragraph 2) that "the major air quality impact from surface coal mining activities is an increase in total suspended particulates (primarily fugitive dust) from increased topsoil and overburden handling, stockpiling, and spreading activities required for reclamation. This statement is inconsistent with the conclusions in other sections that minor adverse impacts on air quality will result from topsoil handling and storage requirements.

Comment Raised By:

Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

The discussion of air quality (Part B, Section III.A) has been revised to state that reclamation activities are one of a number of activities causing an increase in total suspended particulates. The discussion also identifies the adverse impacts of the topsoil handling and storage requirements.

As noted in the Introduction, Part A, Section I and in Comment Response 8, the terms major, minor and negligible have been deleted in discussions of individual components of the preferred alternative.

COMMENT NO. 38

The draft EIS misleads the reader into thinking that EPA ignores fugitive dust.

Comment Raised By:

Carbon Fuel Co.
Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development
American Natural Services
Environmental Protection Agency

Response:

EPA is currently developing BACT for surface coal mining operations. EPA has on occasion required, on a case-by-case basis, management practices to control fugitive dust. Moreover, EPA does not count fugitive dust toward a violation of national ambient air quality standards.

COMMENT NO. 39

The draft EIS does not adequately describe the impacts which will result from closure of mines in the West on air quality grounds.

Comment Raised By:

El Paso Coal Co.
Joint Committee of the NCA/AMC

Response:

The effects of mine closures are discussed generally in Part B, Section III.B.8. However, the Office does not believe that the preferred alternative will result in closure of mines in the West based on air quality violations.

COMMENT NO. 40

The draft EIS does not acknowledge that an effective, environmentally sound means of preventing subsidence by utilizing backfill of mined out areas of underground coal mines in the United States has not been developed, and as a result, the subsidence issue is going to be a difficult one for OSM to handle.

Comment Raised By:

West Virginia Office of Economic and Community Development

Response:

The utilization of backfilling in underground mines for controlling subsidence is now discussed in Part B, Section III.A.2. The discussion recognizes the state of existing technology.

COMMENT NO. 41:

The statement in the Draft EIS (page BIII-13) that water impoundments and stream diversions are adverse impacts on the topography is not true if they are designed to be esthetically pleasing.

Comment Raised By:

West Virginia Office of Economic and Community Development
Joint Committee of the NCA/AMC

Response:

While impoundments and diversions may be designed to be esthetically pleasing, the drafters of the EIS have taken the position that all changes in natural topography are "adverse". This view derives, in part, from the premises of the Act which include the Congressional determination that original, pre-mining configurations are to be retained or reestablished wherever possible. Esthetically pleasing dams may be preferable to ugly impoundments, but both result in the destruction of the original topographic profile.

COMMENT NO. 42

The draft EIS (page BIII-17) accurately states the potential for reduced soil productivity following mining but does not recognize that reclamation techniques in use today have largely eliminated the abuses of the past.

Comment Raised By:

West Virginia Office of Economic and Community Development
Joint Committee of the NCA/AMC

Response:

The final EIS has been revised to more clearly reflect the existing levels of State regulations as well as existing technology for soil reclamation (see Part B, Section III.A.3).

COMMENT NO. 43

The definition of topsoil as the A horizon should be referenced throughout the draft EIS.

Comment Raised By:

Bureau of Land Management

Response:

The Office believes that defining topsoil once in the narrative as is done in Part B, Section III.A.3, is adequate; referencing the definition each time the word "topsoil" appears would unnecessarily lengthen the final EIS.

COMMENT NO. 44

The draft EIS is deficient in not addressing the potential adverse effects on microbial activity in the soil which could result from stockpiling of topsoil.

Comment Raised By:

West Virginia Office of Economic and Community Development

Response:

Topsoil storage impacts on microbial activity were discussed in a general way and identified as a potential adverse impact in the draft EIS. The final EIS has been revised to further reflect the potential adverse effects of topsoil stockpiling on microbial activity. (See Part B, Section III.A.3.)

COMMENT NO. 45

Areas where selected overburden materials may be effectively substituted for the B horizon are more common than the draft EIS indicates.

Comment Raised By:

West Virginia Office of Economic and Community Development
Joint Committee of the NCA/AMC

Response:

Part B, Section III.A.3 has been modified to indicate that there will be circumstances where selected overburden materials may be more desirable than the A or B horizons in soil reconstruction. Substitution is permitted by the preferred alternative if proper showings are made, but data is not available in either the comments or OSM files to show the extent of substitution likely to occur.

COMMENT NO. 46

The draft EIS infers that coal mining destroys all vegetative productivity of the soil and that pre-SMCRA revegetation efforts relied totally on natural succession (page BIII-84).

Comment Raised By:

Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

Part B, Section III.A.3 of the final EIS has been revised to eliminate the apparent inference that coal mining destroys all soil productivity. Discussion in the draft EIS did not mean to imply that pre-SMCRA reclamation efforts always relied on natural succession; rather that early establishment of ground cover needed to reduce erosion may not be attained under natural succession processes.

COMMENT NO. 47:

The draft EIS does not support the conclusion that the proposed action will have a major beneficial impact nationally in preserving agricultural productivity. (page AIII-1). Acreage data suggests only minor beneficial impacts.

Comment Raised By:

West Virginia Office of Economic and Community Development
Joint Committee of the NCA/AMC
American Natural Services Co.

Response:

The impact of protection of prime farmlands becomes more significant as the acreages of cropland are diminished by all types of activities and as the demand for food and fiber production increases. On a local or regional basis, the significance may even be greater. The magnitude of impact, therefore, is relative to the small amount of prime farmland as well as its long-term uses rather than to the comparatively small amount of such land alone.

COMMENT NO. 48:

The draft EIS does not support the statement that the removal of vegetative cover, topsoiling and topsoil storage is a "minor" adverse impact of mining (p. A.III.4). The draft EIS does not address the effect of topsoil handling on air quality.

Comment Raised By:

Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

References to technical literature (Part B, Section III.A.3) in the final EIS substantiate the adverse effects on the soil resource of mining practices. The impacts of exposed areas (vegetative removal) are addressed in the air quality analysis in Part B, Section III.A.1.

COMMENT NO. 49

The statement (on page BIII-23 of the draft EIS) that "restoration of the subsoil and the topsoil is essential if crop and forage yields of reconstructed soils are to achieve 90 percent productivity as compared to reference areas" is unsupported and contradicts the statement that "some restored areas will have higher productive capacity where high quality overburden is substituted for topsoil."

Comment Raised By:

West Virginia Office of Economic and Community Development
Joint Committee of the NCA/AMC

Response:

The discussion has been revised. (see Part B, Section III.A.3.)

COMMENT NO. 50

The regulations will not minimize compaction when topsoil is redistributed (page BIII-23 of the draft EIS); they will increase the degree of compaction.

Comment Raised By:

Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

The discussion of the effect of the regulations on compaction has been revised and reflects the potentials for excessive compaction which the preferred alternative attempts to mitigate.

COMMENT NO. 51

The draft EIS lacks consideration of Midwest surface mining impacts on groundwater, where benefits do occur as a result of mining.

Comment Raised By:

West Virginia Office of Economic and Community Development

Response:

The final EIS acknowledges this condition in Part B, Section III.A.4.c (Section 816.51).

COMMENT NO. 52

The statement on page BIII-61 of the draft statement that 75 percent of water from surface mines drain into underground mines is not true in all parts of the East.

Comment Raised By:

Texas Instruments

Response:

The referenced statement is based on Spaulding and Ogden, 1968, and is qualified.

COMMENT NO. 53

If the sediment ponds are kept substantially drawn down between major precipitation events, they are likely to create a local "mudflat" environment which is unsightly and may support an unwholesome aquatic community, i.e. mosquitoes.

Comment Raised By:

West Virginia Office of Economic and Community Development

Response:

The final EIS recognizes that water in sediment basins may become stagnant during low-water periods. If this occurs, such stagnant water would be released to the environment rather suddenly during the next significant storm event. Such stagnant water is also a potential source for additional mosquitoes. This adverse impact, however, is offset by the downstream benefits to aquatic life as a result of sediment from the mining activity being controlled.

COMMENT NO. 54:

Iron and manganese are not severe toxicants to all aquatic life as indicated (page BIII-34 of the draft EIS).

Comment Raised By:

West Virginia Office of Economic and Community Development

Response:

The statement has been qualified to state that iron and manganese are toxic to some aquatic life.

COMMENT NO. 55

The draft EIS does not recognize or accurately describe existing water laws that already protect the nation's water resources through regulation of effluent. This leads to an overstatement of benefits. No substantive guidance to the states or industry has been provided by the Department of Interior or the Environmental Protection Agency.

Comment Raised By:

American Natural Service Co.
Virginia Council on the Environment
Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development
Environmental Protection Agency

Response:

(1) The draft EIS carefully analyzed the relationship between the EPA's water pollution control requirements for coal mining under the Clean Water Act and other statutes and OSM's proposed permanent program regulations. However, further clarification has been made in Part B, Section I-A-5. As more fully described in that discussion, there is relatively little duplication between EPA's programs and the OSM regulations.

EPA has not yet promulgated implementing regulations under the Safe Drinking Water Act or the Resource Conservation and Recovery Act with respect to coal mining. Nor has EPA either approved any State programs under Section 208 of the Clean Water Act for controlling nonpoint source discharges from mining or promulgated regulations under Section 304(k) to control such discharges as ancillary to coal mining point sources. The only regulations EPA has promulgated (40 CFR 434) do not cover nonpoint discharges, discharges to ground water, discharges during mine reclamation, or discharges to small streams. Neither do those regulations require that contaminated mine drainage be collected and treated to satisfactorily reduce pollution.

In contrast, the preferred alternative will comprehensively regulate all water discharges from coal mining, as is required by numerous provisions of SMCRA (Sections 515(b)(4), (8), (9), (10), (13), (17), (18), (24); 516(b)). Therefore, the EIS does accurately describe the benefits of the proposed action, because substantial quantities of pollutants will be precluded from leaving the mine site via discharges not regulated by EPA.

(2) Regarding State regulatory authorities, OSM is in the process of negotiating a joint memorandum of understanding with EPA which will supply substantive guidance to the States for avoiding duplication under NPDES and SMCRA programs. Further, OSM will closely advise the States during the development of State program submittals, as provided in Sections 102 and 201 of the Act and Parts 730, 732, 735 and 795 of the preferred alternative.

COMMENT NO. 56

Who makes the determination that mining will be prohibited when satisfactory vegetation cannot be established?

Comment Raised By:

Bureau of Land Management

Response:

The determination is made by the regulatory authority in the decision to issue or deny a permit based on the information contained in the permit application.

COMMENT NO. 57

The draft EIS (page A.III-2) emphasizes that vegetative diversity will result from the regulations, when the regulations require native species unless otherwise approved by the regulatory authority.

Comment Raised By:

Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

The law (Section 515(b)(19)) and the regulations (816.111 and 817.111) require "diverse" vegetation. Both native and introduced species can generate a diverse vegetative cover. However, the statement cited was misleading and has been deleted.

COMMENT NO. 58

The EIS should discuss Executive Orders 11990 and 11988 in Part B, Section I.

Comment Raised By:

Environmental Protection Agency

Response:

This discussion has been added in Part B, Section I.

COMMENT NO. 59

The final EIS should discuss the degree to which the proposed regulations will preserve valuable wetlands.

Comment Raised By:

Environmental Protection Agency

Response:

Protection of wetlands is discussed in Part B, Section III.A.3 (Soils and Vegetation). Preservation of wetlands may result if such lands are determined to be fragile lands or renewable resource lands and are designated as unsuitable through a petition process (Part 762).

COMMENT NO. 60

A major omission in the statement is a lack of discussion of the impacts on forestry.

Comment Raised By:

U.S. Forest Service

Response:

Under the preferred alternative (Section 761.11), forestry is considered as one of several vegetative resources for land use before a permit is approved for mining and after reclamation of the land to the same or higher use. Therefore, the consideration given forest resources, and their specific reclamation requirements, are considered within the analysis for vegetation and revegetation in Part B, Section III.A.3 of the EIS. Forestry as a land use is also discussed in Part B, Section III.B.2. Additional impacts on national forest lands will result from the Federal Lands Program which is not analyzed by this EIS.

COMMENT NO. 61

The final EIS should be expanded to include a discussion of the impacts of surface mining on wetlands.

Comment Raised By:

Environmental Protection Agency

Response:

The effects of surface mining on wetlands are generally the same as the environmental impacts discussed in Part B, Section II.D. However, the environmental impacts of mining in wetlands can be more severe than mining in non-wetlands areas because much of the nation's fish and wildlife are dependent on wetland ecosystem for habitat, and because damage to wetlands may be irreversible. (McCormick, 1978). Where significantly different impacts on wetlands have been identified, they are noted in Part B, Section III.

COMMENT NO. 62:

The draft EIS discusses the stress and displacement of wildlife populations in the West but fails to discuss these factors for the East and Midwest.

Comment Raised By:

West Virginia Office of Economic and Community Development

Response:

OSM recognizes that there are variations in the level of stress experienced by wildlife populations and its effects, depending on species of animals, season of year, climate, habitat condition and a variety of other factors, including regional or geographic location. The discussion in Part B, Section III.A.6. has been revised to reflect that stress to wildlife is not limited to the Western region.

COMMENT NO. 63

The requirement to return land to premining conditions, including requirements for return to approximate original contour, post-mining land use planning will reduce the lands attractiveness as wildlife habitat and may result in changed land use which precludes the establishment of wildlife habitat.

Comment Raised By:

Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

The comment is partially true in that changes in postmining land use may result in some local reduction of various habitats. However, wildlife habitat, as defined in the regulations, is one of the approved changes from premining land use for which variances may be granted. These variances can result in the creation of habitat which will be advantageous to wildlife species. Any proposed changes in land use must be coordinated with known responsible private and governmental interests, including wildlife interests and agencies. (see Regulations Section 816.133(c)(8).)

COMMENT NO. 64

The Endangered Species Act of 1973 already provides full protection for listed species on both Federal and non-Federal land. Claiming benefits for such protection as a result of these regulations is therefore not appropriate. There is no support for the statement that mining can contribute to the extinction of a rare and endangered species.

Comment Raised By:

Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

Existing protection of endangered or threatened species on non-Federal lands applies only to protection of listed plants and animals from takings as defined in the Endangered Species Act. It does not apply to protection of their critical habitats from private actions. Mining effects can adversely impact habitats which could contribute to the extinction of a rare and endangered species. (Spaulding and Ogden, 1968). The final EIS has been expanded to present this more clearly in Part B, Section III.A.6.

COMMENT NO. 65

The draft EIS fails to recognize the adverse impacts on aquatic life which will result from stream diversion and topsoil storage and handling requirements.

Comment Raised By:

Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

Discussions have been added in Part B, Section III.A.7.

COMMENT NO. 66

Mining and its associated facilities may be cultural resources in the form of a vital link to cultural and historical heritage.

Comment Raised By:

West Virginia Office of Economic and Community Development

Response:

Mining facilities which are of historical or cultural significance, and have been so designated or are eligible for designation, will be afforded the same protection as other culturally or historically significant areas.

COMMENT NO. 67

The discussion of cultural resources addresses the total question of designation of lands unsuitable rather than just cultural resources. Cultural resources are much less encompassing than the total resources addressed in designations.

Comment Raised By:

West Virginia Office of Economic and Community Development

Response:

The designation regulations are emphasized in the discussion since these regulations will have the most significant impacts on cultural resources. Only one of several aspects of the regulations related to the designation of lands unsuitable is addressed in the revised discussion.

COMMENT NO. 68

The adverse impact of the land use planning requirements on subareas and communities is not assessed nor is the effect on coal development planning as a result of inefficient, inexperienced land use planning.

Comments Raised By:

West Virginia Office of Economic and Community Development

Response:

The possible adverse impact of land use planning requirements on communities and local areas is discussed in the EIS in Part B, Section III.B.2. One of the primary functions of the land use planning requirement will be to facilitate coordination and/or communication between mine operators (who are planning post-mining land use activities) and local planning authorities (who are planning public facilities and promoting orderly growth.) (see Part B, Section III.B.2). For example, the regulatory requirement for "a written statement of views of activities with statutory responsibilities for land use policies and planning" will identify the extent and timing of these potential land use changes to the authorities in advance of development actions. This does not provide new regulatory functions or additional police powers to the local governments, but, instead merely encourages better communication. Further, the benefits of early and better communication are derived regardless of whether a small part-time citizen planning board or a large group of professional planners are involved.

COMMENT NO. 69

References should be made in the EIS to established visual resource management systems such as exist in the U.S. Forest Service and Bureau of Land Management.

Comment Raised By:

Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

Adding these references to the EIS text is inappropriate since the regulations do not require analysis or management of visual or esthetic resources per se.

COMMENT NO. 70

There are no details in the regulations to support the statements in the draft EIS regarding esthetics.

Comment Raised By:

West Virginia Office of Economic and Community Development

Response:

The esthetics section has been revised to reflect that impacts on esthetics will generally be an indirect result of applying the permit requirements and performance standards. The latter requirements and standards are discussed in the text following this statement. (Part B, Section III.B.3).

COMMENT NO. 71

Decreasing peak particle velocity will not be a benefit because more noise will be generated by additional blasting. Blast noise is not always detrimental because blasting is not done in areas of dense population.

Comment Raised By:

Texas Instruments

Response:

Additional blasts may not be necessary. The same amount of work may be accomplished through the use of proper blast design and delays.

A significant number of people live within relatively short distances of surface coal mines where blasting is conducted, as is clear from Congress' concern (Section 515(b)(15)) that blasting be closely regulated. (Hearings on H.R.2 before the Subcommittee on Energy and the Environment, 95th Congress, 1st Session (1977), Part II, pages 13, 25, 210, 227, 283-284).

COMMENT NO. 72

The draft EIS erroneously states that existing roads are of low quality (page BIII-117).

Comment Raised By:

West Virginia Office of Economic and Community Development
Consolidation Coal Co.
Joint Committee of the NCA/AMC

Response:

The EIS does not imply that all pre-SMCRA mine roads are inadequate. However, Grim and Hill (1974, p. 116) state that typical pre-1965 and 1971 contour mining roads exhibit poor alignment, excesssive grades, insufficient strength and durability, and poor drainage. (see Part B, Section III.B.5.)

COMMENT NO. 73

Public roads are cared for and built by the State, county, or local municipality. Coal companies are prohibited by law from making improvements to public roads.

Comment Raised By:

West Virginia Office of Economic and Community Development
Joint Committee on the NCA/AMC
Consolidation Coal Co.

Response:

The discussion in the draft EIS was not intended to imply that coal companies are responsible for maintaining public roads. The proposed regulations for road construction govern only those roads in the permit area.

COMMENT NO. 74

The primary justification used in the draft EIS (page BIII-127) for regulations dealing with construction of roads is the protection of miners, which is a MSHA responsibility.

Comment Raised By:

West Virginia Office of Economic and Community Development
Joint Committee of the NCA/AMC

Response:

The discussion has been revised to reflect that the road standards affect public safety generally. (Part B, Section III.B.5.)

COMMENT NO. 75

The draft EIS does not adequately address the impacts of regulations on roads and transportation, especially with regard to trucks, railroads, conveyors, and large transportation systems and barges.

Comment Raised By:

Consolidation Coal Co.
Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development

Response:

The proposed program does not regulate offsite transportation and, there fore, would not have a direct impact on transportation systems such as railroads and barges. Impacts on those elements of transportation systems would occur as a result of the regulations only if the regulations cause a shift in production. This is discussed in Part B, Section III.B.8. of the final EIS. The reference to barge transportation has been deleted since it was misleading. Conveyors would be affected only to the extent that they are within a mine permit area.

COMMENT NO. 76

The draft EIS implies that there is no regional difference in the impacts of the regulations on the transportation systems, and that impacts are minor in every instance, as implied in Table B16.

Comment Raised By:

Consolidation Coal Co.

Response:

The language has been revised in Part B, Section III.B.5 of the final EIS to reflect the regional impacts. In addition, Table B16 has been deleted.

COMMENT NO. 77

The draft EIS does not adequately address the adverse impacts resulting from road construction and removal of roads required by the proposed regulations. The analysis does not include the impacts of additional clearing, earth moving, and exposure of larger areas to erosion, as a result of the regulations.

Comment Raised By:

Consolidation Coal Co.
West Virginia Office of Economic and Community Development
Joint Committee of the NCA/AMC
Texas Instruments

Response:

Discussion has been added in Part B, Section III.B.5.

COMMENT NO. 78

The EIS does not adequately address MSHA's responsibility for the safety of miners. It attempts to justify a number of the regulations, including those for sealing auger holes, casing and sealing mine openings, and blasting, by citing the beneficial effects of the impact upon miner safety. Further, it does not analyze how the OSM regulations will affect MSHA's for blaster training.

Comment Raised By:

Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development
Amax Coal Co.
Virginia Council on the Environment

Response:

This Office has reviewed the discussion of safety (Part B, Section III.B.6) and believes that it fairly and accurately represents the impacts of the regulations. The discussions of safety impacts of the OSM regulations refer to human safety in general and have been clarified to more precisely analyze the impacts. The relationship of OSM's regulations to the MSHA regulations is clearly stated and has been clarified in Part B, Sections I.A.6 and III.B.6 to eliminate ambiguity. The major differences in blasting regulations are in the specification by OSM of maximum peak particle ground vibration, flyrock and noise (air blast) restrictions, which are not regulated by MSHA. Also, OSM requires that preblast and all-clear signals be audible within one-half mile of the blast site, whereas MSHA requires only "ample warning." Miner safety will be enhanced over that which results from MHSA regulations in some cases, including, for example, the OSM requirement that all mining within 500 feet of an active or abandoned mine be approved by OSM and MSHA. The blaster training regulations, originally proposed, will not be finalized at this time.

COMMENT NO. 79

The draft EIS does not address the effects on miner safety if there is a trend to underground mining.

Comment Raised By:

U.S. Department of Commerce

Response:

The effects on miner safety, which could result from a trend to underground mining, has been addressed in the socioeconomic section, Part B, Section III.B.8.

COMMENT NO. 80

The draft EIS does not adequately analyze the socioeconomic impacts of the permanent regulatory program, which for the most part will be adverse.

Comment Raised By:

Phillips Coal Co.
Department of Housing and Urban Development
Westmoreland Resources, Inc.
Utah International, Inc.
Amax Coal Co.
Joint Committee of the NCA/AMC
West Virginia Office of Economic and Community Development
Virginia Surface Mining and Reclamation Association
Peabody Coal Co.
Carbon Fuel Co.
Virginia Council on the Environment
American National Service Co.
Department of Commerce
Louisiana Department of Natural Resources
El Paso Coal Co.
Old Ben Coal Co.
Consolidation Coal Co.
North Dakota State Planning Division

Response:

The discussion of socioeconomic impacts has been revised to include an analysis of the issues raised by the comments. (See Part B, Section III.B.8.)

COMMENT NO. 81

The draft EIS does not address the impacts of the proposed regulations on coal recovery, especially those for designating lands unsuitable for coal mining.

Comment Raised By:

Joint Committee of the NCA/AMC
Utah International, Inc.
Amax Coal Co.
West Virginia Office of Economic and Community Development
Bureau of Land Management
Westmoreland Resources, Inc.
Virginia Council on the Environment

Response:

An analysis of the impact of the regulations on coal recovery has been added to the final EIS. (See Part B, Section III.B.8.)

COMMENT NO. 82

In reference to the statement, "Respect for enforcement personnel connected with coal mining will increase as more highly qualified inspectors are hired and the training of current inspectors is upgraded" (page BIII-135 of the draft EIS), what type person does OSM think it employs?

Comment Raised By:

Westmoreland Resources, Inc.

Response:

The discussion has been deleted.

COMMENT NO. 83

The draft EIS fails to adequately assess the impacts of mining on communities and related services and facilities.

Comment Raised By:

Department of Housing and Urban Development

Response:

These issues are discussed in Part B, Section III.B.8. of the final EIS.

COMMENT NO. 84

The wording on page BIII-134 of the draft EIS to "promote and preserve the special life styles" is a subjective assumption. The individual landowner should have the right-of-choice on what the end use of his land shall be.

Comment Raised By:

West Virginia Office of Economic and Community Development

Response:

The language in Part B, Section III.B.8. has been changed.

COMMENT NO. 85

As implied in the draft EIS, the permanent regulatory program will not assure increased public participation nor reduce citizen alienation from the government (pages AIII-9 and BIII132 of the draft EIS).

Comment Raised By:

Carbon Fuel Co.
Virginia Council on the Environment
West Virginia Office of Economic and Community Development

Response:

Part B, Section III.B.8.a. states that the opportunity for public participation is increased by the permanent regulatory program and OSM believes that the greater opportunity for public participation will create more interaction between government and the public. OSM cannot predict the degree to which the public will participate once given the opportunity. The statement regarding citizen alienation has been deleted.

COMMENT NO. 86

As stated in the draft EIS on page BIII-134, long-term productivity and higher or better use of the land does not necessarily equate to a positive benefit to local people, especially where coal is the economic base.

Comment Raised By:

West Virginia Office of Economic and Community Development

Response:

The statement in the draft EIS on page BIII-134 addresses the requirement that mandates restoration of the land to a condition capable of supporting its pre-mined land use or higher or better uses. This will allow mining to take place; it will leave the land in a condition which could be of additional benefit to citizens.

COMMENT NO. 87

Opportunities for hunting, fishing and other recreation will not necessarily increase where mining is prohibited. (page BIII-134 of the draft EIS). The opportunity for substantial increase may be better afforded by mining and returning to this designed postmining land use.

Comment Raised By:

West Virginia Office of Economic and Community Development

Response:

The discussion has been revised to reflect that the opportunities may increase and to explain why such an increase may occur.

COMMENT NO. 88

The EIS does not evaluate all reasonable alternatives.

Comment Raised By:

Amax Coal Co.
Joint Committee of the NCA/AMC
Consolidation Coal Co.
Utah International, Inc.
Peabody Coal Co.
Louisiana Department of Natural Resources
El Paso Coal Co.
West Virginia Office of Economic and Community Development
American Natural Service Co.
Phillips Coal Co.
Virginia Council on the Environment

Response:

The Office believes that the numerous alternatives suggested by the commentors constitute variations of the same alternatives discussed in Part B, Section IV, and they fall within the minimum and maximum parameters established by the alternatives of no-action and broad goals and objectives. The Office does not believe that it is necessary to discuss all conceivable alternatives or variations thereof, particularly those which are inconsistent with the intent of Congress to provide a uniform regulatory scheme nationwide. Rather, the Office has elected to evaluate a variety of alternatives in a programmatic fashion, as discussed in Part B, Section IV. These alternatives, and the preferred alternative, represent a broad spectrum of options, including what the Office believes are the full range of all available alternatives. This approach provides the Secretary and the reader with the necessary "benchmarks" for evaluating the impacts of the alternatives, including an infinite number of variations.

The Office thoroughly considered developing alternatives involving the promulgation of a regulatory program on a regional or state by state basis. These alternatives were frequently suggested by commentors who believed that they would be more responsive to regional environmental conditions, coal mining operations, and social and economic criteria. The Office, however, elected not to develop and include these alternatives in the text of the final environmental statement for a variety of reasons. These reasons, as well as the impacts of these alternatives are discussed below.

The Surface Mining Control and Reclamation Act of 1977 itself, acknowledges regional and state variations in mining methods, socio-economic values and environmental conditions. Therefore, the permanent regulatory program, prepared in accordance with the Act, accommodates and recognizes the variations. Section 508(a)(2)(B) of the Act, for example, provides that reclamation plans include data concerning the capability of the land prior to any mining to support a variety of uses; such capability must consider the soil and foundation characteristics, topography, and vegetative cover. Similarly, Section 101(f) of the Act recognizes the diversity in terrain, climate, biologic, chemical, and other physical conditions in areas subject to mining operations; therefore, declaring that primary governmental responsibility for developing, authorizing, issuing, and enforcing regulations for surface mining and reclamation operations should rest with the States. Among others, Sections 510(b)(5), 515(b)(7), 515(b)(23), 515(d) and 527 of the Act also recognize regional and state differences. Consequently, the Office believes that such intent is also expressed in the regulatory program based on these sections together with regulatory flexibility, and that preparation of regulations on a regional or state by state basis would serve little additional purpose; it would constitute a variation of the proposed action and other alternatives discussed in Part B, Section IV.

The Office further believes that regional and state variations in mining methods, environmental settings, and socio-economic conditions will be accomplished under the "State window" concept of the permanent regulatory program. (Section 731.13). Under this section, the States have the flexibility to take into account local conditions, provided that supportive data and information clearly demonstrates to the Office that the alternative State plan will satisfy the requirements of the Act. Such flexibility under the permanent regulatory program will be effective in recognizing regional differences. The Office, therefore, believes that a discussion of these suggested alternatives as separate alternatives is unnecessary because regional and state variations are already parts of the preferred alternative.

In making its decision not to include the regional or state by state regulatory program alternative, the Office also concluded that the environmental impacts of this alternative would not vary significantly from those of the permanent regulatory program. The Act requires a national program implementing statutory standards. The programmatic impacts of national standards are unlikely to vary significantly whether regulations are written regionally or state by state. Regional variations of significance have been recognized in the final EIS (Section BIII in particular). Consequently, the discussion of a regional or state by state regulatory program alternative, and related impacts, would not materially enhance the capability of the Secretary to make his decision to either adopt the proposed action or one of the alternatives described in Part B, Section IV.

COMMENT NO. 89

The analysis of alternatives should be programmatic.

Comment Raised By:

Utah International, Inc.
El Paso Coal Co.

Response:

Alternatives C and D of the draft environmental impact statement were intended as programmatic alternatives. The discussions of individual regulatory options within each of these alternatives were provided as examples to assist the reader in understanding the potential impacts of the alternative regulatory program. The final impact statement has been revised to clearly reflect that the specific regulatory alternatives discussed are examples.

COMMENT NO. 90

The statement that the no-action alternative would prolong environmental damage (page BIV-1 of the draft EIS) does not reflect effective reclamation laws.

Comment Raised By:

American Natural Service Co.

Response:

The text has been revised to reflect the initial regulatory program.

COMMENT NO. 91

The alternative of promulgating the regulatory program on the basis of goals and objectives is not adequately analyzed. The alternative is dismissed on the assumption that State costs will be greater.

Comment Raised By:

Joint Committee of the NCA/AMC
American Natural Service Co.
Virginia Council on the Environment
Carbon Fuel Co.
Peabody Coal Co.
Consolidation Coal Co.
Utah International, Inc.
West Virginia Office of Economic and Community Development

Response:

The analysis of this alternative has been revised in Part B, Section IV. Both beneficial and adverse impacts of the alternative are discussed. Further, the alternative has not been dismissed. It remains a viable option for the Secretary in the decision-making process, i.e., upon review of the final environmental statement, the regulatory analysis, public and agency comments and other available data, the Secretary may elect to adopt the goals and objectives regulatory program option over the proposed action or other alternatives discussed in Part B, Section IV.

COMMENT NO. 92

The more stringent and less stringent alternatives are merely different degrees of the proposed action.

Comment Raised By:

Amax Coal Co.
Consolidation Coal Co.
Joint Committee of the NCA/AMC
Peabody Coal Co.
West Virginia Office of Economic and Community Development

Response:

In discussing alternatives, OSM decided to "bracket" or establish minimum and maximum parameters around the proposed action. These parameters are represented by the Less Stringent and More Stringent alternatives discussed in Part B, Section IV. The purpose for establishing such parameters is to provide frames of reference at two separate extremes, thus permitting the reader to evaluate the permanent regulatory program against other available options.

COMMENT NO. 93

The draft EIS should evaluate the alternative of setting goals for other federal agencies now regulating surface mining that would effectively administer the Act without establishing national standards.

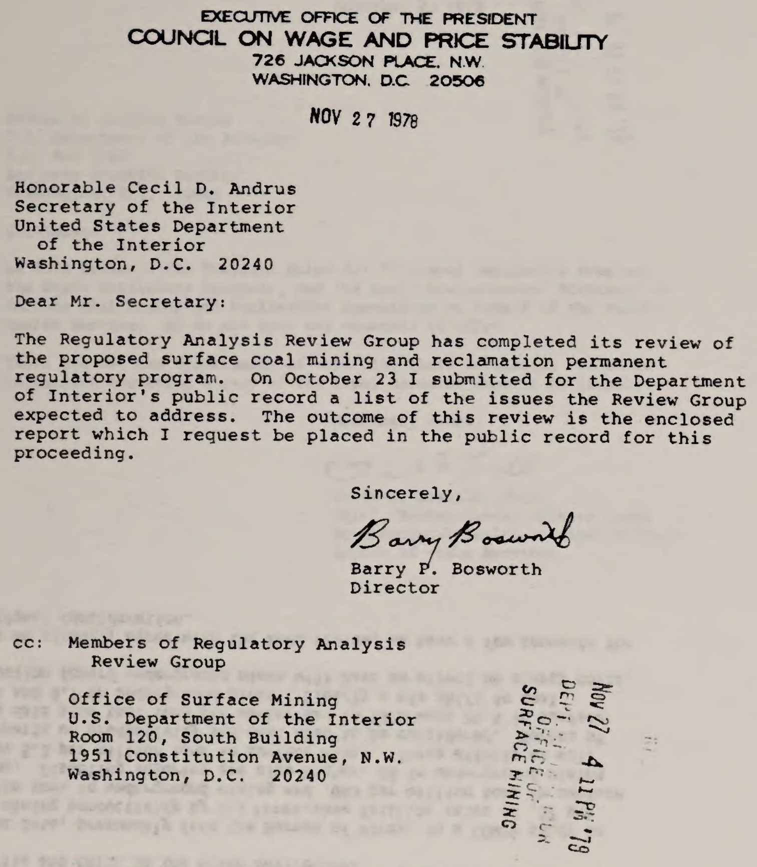
Comment Raised By:

Consolidation Coal Co.
Joint Committee of the NCA/AMC

Response:

This suggested alternative was not discussed in the text for a number of reasons. First, setting goals for other agencies would not be consistent with the intent of Congress that the preferred alternative consist of a set of minimum national regulations. Second, Congress intended and the Act requires that the Secretary administer the permanent regulatory program through the Office of Surface Mining. (Section 201(c)). Those agencies and departments which are involved in the regulation of coal mining must concur in the proposed action but may not function as "administrators" of the regulations except to the extent permitted by SMCRA. Finally, division of responsibilities for regulating coal mining as contemplated by the comment could frustrate the regulatory scheme mandated by the Act--that the primary governmental responsibilities for regulating coal mining should rest with the states.

APPENDIX B: FEDERAL AGENCY COMMENTS



EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON WAGE AND PRICE STABILITY
726 JACKSON PLACE, N.W.
WASHINGTON, D.C. 20506

NOV 27 1978

Honorable Cecil D. Andrus
Secretary of the Interior
United States Department
of the Interior
Washington, D.C. 20240

Dear Mr. Secretary:

The Regulatory Analysis Review Group has completed its review of the proposed surface coal mining and reclamation permanent regulatory program. On October 23 I submitted for the Department of Interior's public record a list of the issues the Review Group expected to address. The outcome of this review is the enclosed report which I request be placed in the public record for this proceeding.

Sincerely,

Barry Bosworth

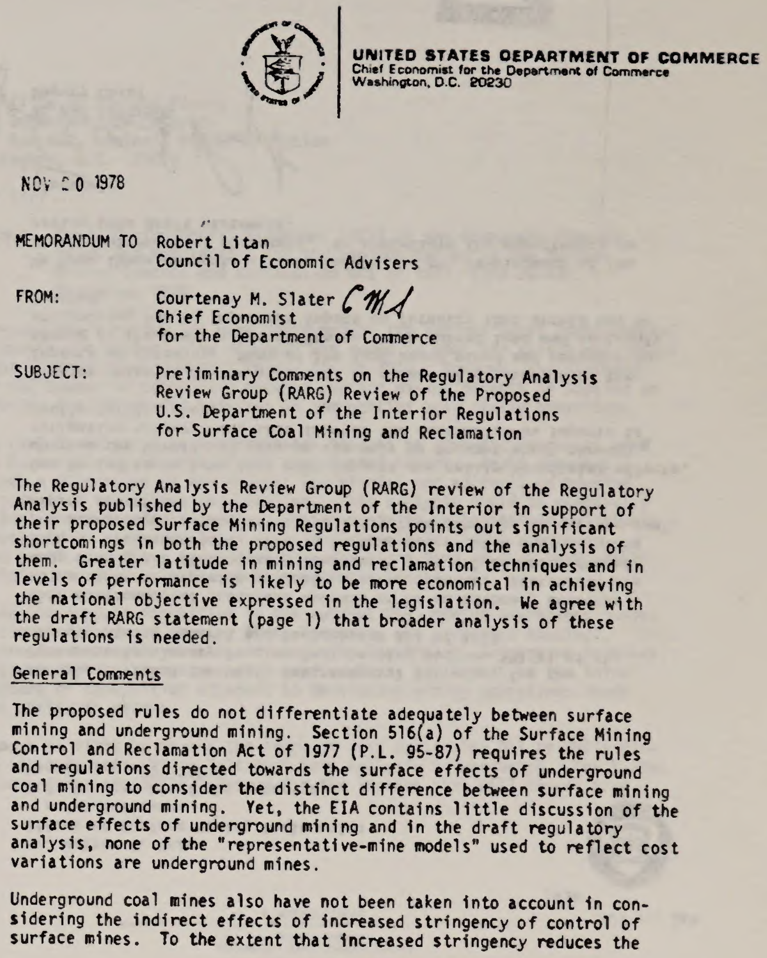
Barry P. Bosworth
Director

cc: Members of Regulatory Analysis
Review Group

Office of Surface Mining
U.S. Department of the Interior
Room 120, South Building
1951 Constitution Avenue, N.W.
Washington, D.C. 20240

Nov 27 4 11 PM '78
DEPT. [illegible]
OFFICE OF [illegible]
SURFACE MINING

Note: This letter was not directed to the Environmental Impact Statement specifically but did contain the following comment on the EIS. To reduce volume, only the portions of the letter pertinent to the EIS are printed.



UNITED STATES DEPARTMENT OF COMMERCE
Chief Economist for the Department of Commerce
Washington, D.C. 20230

NOV 20 1978

MEMORANDUM TO Robert Litan
Council of Economic Advisers

FROM: Courtenay M. Slater CMS
Chief Economist
for the Department of Commerce

SUBJECT: Preliminary Comments on the Regulatory Analysis Review Group (RARG) Review of the Proposed U.S. Department of the Interior Regulations for Surface Coal Mining and Reclamation

The Regulatory Analysis Review Group (RARG) review of the Regulatory Analysis published by the Department of the Interior in support of their proposed Surface Mining Regulations points out significant shortcomings in both the proposed regulations and the analysis of them. Greater latitude in mining and reclamation techniques and in levels of performance is likely to be more economical in achieving the national objective expressed in the legislation. We agree with the draft RARG statement (page 1) that broader analysis of these regulations is needed.

General Comments

The proposed rules do not differentiate adequately between surface mining and underground mining. Section 516(a) of the Surface Mining Control and Reclamation Act of 1977 (P.L. 95-87) requires the rules and regulations directed towards the surface effects of underground coal mining to consider the distinct difference between surface mining and underground mining. Yet, the EIA contains little discussion of the surface effects of underground mining and in the draft regulatory analysis, none of the "representative-mine models" used to reflect cost variations are underground mines.

Underground coal mines also have not been taken into account in considering the indirect effects of increased stringency of control of surface mines. To the extent that increased stringency reduces the supply of surface mined coal and increases the demand for underground coal, there are other effects which should be considered in the regulatory analysis. These include increased fatalities and injuries for every million tons of coal mined. The analysis and the regulations need to consider tradeoff between natural invironmental benefits and costs to the human environment.

Recent data, presumably from the Bureau of Mines, in a COWPS study on coal mining productivity by Art Fross, show fatality rates of .37 per million tons in underground mining and .063 per million tons in surface mining. Disabling injuries are also higher, 38 in underground mining versus 5.3 per million tons in surface mines. These effects as well as impacts on productivity and cost need to be considered. Bureau of Mines data show that tons per worker day in 1976 were 26.4 in surface mines and 9.1 in underground mines. Clearly a mix shift in coal production toward underground mines will have an effect on energy costs.

While we strongly agree with the RARG review, we have a few comments for additional consideration.

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
P.O. Box 2417
Washington, DC 20013

NOV 2 , 1978

1950

Mr. Walter N. Heine
Office of Surface Mining Reclsmation
and Enforcement
U.S. Department of the Interior
Washington, DC 20240

Dear Mr. Heine:

We have reviewed the Draft Environmentsl Ststement for the Permanent Regulstory Progrsm lmplementing Section 501(b) of the Surfsce Mining Control snd Reclamation Act of 1977.

This environmental statement appesrs to be an sdvocacy document which tends to minimize possible sdverse impacts. Ststements are msde throughout the document that imply that all or most adverse impacts are temporary. This is hard to accept when contemplsting the significant earth disturbing activities involved in surfsce coal mining operations.

One is led to believe thst most impacts are really beneficial effects, whereas the beneficial effects can only be brought sbout through mitigstion measures snd this is whst the discussion on impscts is really tslking about.

A major omission in the statement is a lsck of discussion of the impacts on forestry. Much of the land being mined and proposed for mining in the Esstern United States is in forest land and certainly stripmining has an important impact on forestry that should not be ignored.

We hope these comments will be helpful in the development of the final environmentsl ststement. We appreciate the opportunity to review this draft ststement.

Sincerely,

R. MAX PETERSON
Deputy Chief

RECEIVED
11-27-78
10:12 am.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
CENTER FOR DISEASE CONTROL
ATLANTA, GEORGIA 30333
TELEPHONE: (404) 633-3311

November 2, 1978

NOV 6 11 51 AM '78
DEPT. OF INTERIOR
OFFICE OF
SURFACE MINING

Office of Surface Mining
U.S. Department of the Interior
P.O. Box 7267
Benjamin Franklin Station
Washington, D.C. 20044

Gentlemen:

We have reviewed the Proposed Rules for Permanent Regulatory Program, the Draft Regulatory Analysis, and the Draft Environmental Statement on Surface Coal Mining and Reclamation Operations on behalf of the Public Health Service. We do not have any comments to offer.

Thank you for the opportunity of reviewing these documents. We would appreciate receiving a copy of the final document when it is issued.

Sincerely yours,

Frank S. Lisella

Frank S. Lisella, Ph.D.
Chief, Environmental Affairs Group
Environmental Health Services Division
Bureau of State Services

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
REGIONAL OFFICE
ROOM 300, FEDERAL OFFICE BUILDING, 911 WALNUT STREET
KANSAS CITY, MISSOURI 64106

November 17, 1978

REGION VII

IN REPLY REFER TO:

The Office of Surface Mining
U.S. Department of Interior
P.O. Box 6B2, Benjamin Franklin Station
Washington, D.C. 20044

Dear Sir:

Subject: Draft Environmental Statement (DES) on the Permanent Program Rules and Regulations for the Implementation of the Surface Mining Control and Reclamation Act of 1977, (DES 78-42), September 1978

As requested, a review has been performed on the subject Draft Environmental Statement. In general, the document was found to meet the spirit and intent of the National Environmental Policy Act of 1969. However, the statement does not appear to adequately address surface mining impacts on housing or community facilities and services in communities near mining operations.

Both Part A, relating to environmental impacts on specific resources, and Part B, containing an analysis of anticipated impacts, could reasonably include a discussion of the impacts (beneficial and adverse) on housing and community facilities and services. This analysis could be especially critical where developing surface mining projects in heretofore relatively undeveloped or under-developed areas could generate "boom" growth or "boom-bust" conditions (dependent upon the short-term or long-term nature of mining operations in the given geographic areas).

Beyond the impacts identified in the subject DES, mining operations impose additional demands on housing (both temporary and permanent housing). This, in turn imposes extra demands on community facilities, supporting services, and community development program needs. Thus, the impact on the infrastructure of communities adjacent to developing mining operations needs to be analyzed.

Although it might be beyond the scope of this particular DES to fully discuss these impacts, it is felt that some analysis is warranted. Few States or communities are fully prepared for the impacts that will result from ergy-related surface mining, such as that currently scheduled to proceed an ever increasing rapid rate in the West and Midwest.

Your consideration of the above comments as you finalize the environmental statement will be appreciated.

Sincerely,

Gary D. Ultican

Gary D. Ultican
Environmental Officer
Office of Regional Community Planning
and Development

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240

IN REPLY REFER TO:
1782 (141)

Memorandum

To: Director, Office of Surface Mining (OSM)

Deputy
Through: Assistant Secretary--Land and Water Resources

NOV 21 1978

From: Director, Bureau of Land Management

Subject: Review Comments on OSM's Proposed Rulemaking for Program Permanent Regulations and OSM's Draft Environmental Statement (DES)

OSM's proposed regulations and DES have been reviewed. Comments are divided into two categories, general and specific. The specific comments are listed by page and part number.

General Comments

There are occasions throughout the regulations where more specific language is desired to describe the surface management agency's responsibilities. One of the points which must be made clear is that the surface owner or surface managing agency is the final authority in determining the post mining land use and support to insure that the post mining land use is achieved. The permit applicant must know that consultation on the post mining land use before initiating development on the mining and reclamation plan is required. We are also concerned about the definition of a "complete application." On page 41687 of the Federal Register it is implied that a "complete application" contains "all information needed for a final decision to approve or disapprove a permit." Does this also mean that the application must contain the comments obtained from outside agencies pursuant to the National Historic Preservation Act or response to consultation under section 7 of the threatened and endangered species act? If so, this should be stated in the definition. If not, then the time limits for permit approval may be unrealistic.

The regulations do not address the responsibilities of the surface managing agency in those cases where ownership of the surface is Federal and the coal is in private or State ownership. To eliminate potential conflicts resulting from the ownership mix, part 780.23(b)(4) and (c) and 784.14(b)(4) and (c) must reflect the rights of the surface managing agency.

Specific Comments on OSM's Draft Environmental Statement

p AV-2 The statement that, "Some coal resources may be irretrievably removed from potential production by the Act's prohibitions on limitations on mining in alluvial valley floors and within certain lands such as national forests..." is questionable. For example, exceptions may be made for the mining of coal on National Forest lands pursuant to Section 522(e)(2) of SMCRA. Furthermore, statutory limitations are subject to future change.

B1-8 The forth point is somewhat innaccurate and should be revised as follows:

> 4. DOI Federal Coal Management Programmatic ES
>
> The purpose of the Federal Coal Management Programmatic ES is to assess the environmental impacts of a range of alternative strategies for the management of coal resources on Federal Lands. The range of strategies include no action to the resumption of leasing Federal coal at various levels. The ES will serve as a decisionmaking document, allowing for comparisons to the various alternatives. A decision on which strategy to adopt will be forthcoming after the final ES is completed. The scheduled completion date is April 1979.

B1-9 The second paragraph of point 5 is somewhat inaccurate and should be revised as follows:

> The regional statements include a broad overview analysis of environmental impacts associated with current and potential coal development activities, as well as site-specific analyses of leases, mine plans, and right-of-way permits for which administrative action is probable in the near future. These statements also address related coal development activity not requiring specific Departmental approval, such as mine mouth electrical generating or energy conversion facilities, and the expansion or construction of new communities to accommodate coal-induced population increases.

BI-10 The use of the word "insignificant" in reference to the 0.7 percent of the GNP which is attributable to domestic coal is subject to debate and is also an unnecessary assessment.

B1-30 The last sentence in the last full paragraph is somewhat innaccurate and should be revised as follows:

> The Federal coal leasing procedures presently under construction will be described in detail in the new environmental impact statement "Federal Coal Management Program," being prepared by the U.S. Department of the Interior.

Specific Comments on OSM's Proposed Regulations

p. 41801, Part 700.5 - suggest defining "environmental values" by adoption of section 101(b) of the National Environmental Policy Act of 1969.

p. 41803, Part 701.5 - To aid the reader in understanding the various definitions, sections should be combined and the definitions listed in alphabetical order. There are also a number of definitions omitted from this section of the proposed regulations which should be defined, since the terms are used in the proposed regulations and are defined in the Surface Mining Control and Reclamation Act itself. The following identified definitions are ommited.

1. "Federal Lands"
2. Federal Lands Program

p. 41817, Part 740.4(c) - The Secretary has already approved the unsuitability criteria to be used by the surface managing agency in the Federal Lands Review process and the petition process. Thus, the Director of OSM is only responsible for handling the applications, conducting public meetings, and forwarding all findings to the Secretary. Where a difference in findings occur between agencies, the conflict is elevated to the next level of responsibility for resolution. For the above reasons this part should be changed to show OSM's responsibility in handling the petitions.

p. 41819, Part 741.12(c)(3) - The act requires written consent or a bond only when a capital improvement may be damaged. However, this part leads the public to believe that written consent must be obtained even for a grazing lease. This part should be rewritten to reflect the requirements of the act. Part 724.5 reflects the true Federal leasing protection requirement of the Act.

p. 41819, Part 741.14(f) - The part should be changed to read "---Federal Land Policy and Management Act of 1976." It is not the Federal Land Policy and Management Planning Act of 1976.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
State Office
P. O. Box 1828
Cheyenne, Wyoming 82001

IN REPLY REFER TO
1793 (922)

Memorandum

To: Chief, Branch of Environmental Analysis, Office of Surface Mining, U.S. Department of the Interior, P.O. Box 682, Benjamin Franklin Station, Washington, D.C. 20240

From: State Director, Wyoming

Subject: Review of Draft Environmental Statement (DES) for the Permanent Regulatory Program Implementing Section 501 (b) of the Surface Mining Control and Reclamation Act of 1977

Following are our comments on the subject draft environmental statement.

General Comments

The draft ES has not attempted to assess the environmental impacts that might be produced by the proposed regulations as they relate to existing state regulatory programs. This is because it is national in scope and 31 states are involved. Thus, it is of limited value in measuring effects in Wyoming specifically.

Impacts of the regulations are not measured from base zero (no controls), but from the base of existing state requirements. It follows, therefore, that if state requirements are as stringent as these being proposed by OSM, there would be no net effect from implementation of the federal regulations.

In an earlier (prior to SMCRA) comparison of then existing coal mining operating regulations (43 CFR 3041 and 30 CFR 211) by the BLM Wyoming State Office, it was concluded that Wyoming reclamation laws and regulations generally afforded equal protection of environmental values. We feel that this is generally still the case, and that the implementation of the proposed regulations would have little impact on BLM programs in Wyoming.

The ES contains some excellent background information such as description of surface mining methods and impacts, data on national coal reserves, etc. We see this to be the primary value of the document to BLM.

Specific Comments

Page A III-5 Vegetation.

Who makes the determination that mining will be prohibited in areas where satisfactory vegetation cannot be established? What is satisfactory? One person may want forage for animals, another to stabili soil and stop erosion, while another may consider an aesthetically pleasing view of plants on a site to be satisfactory. Satisfactory needs qualification here.

Page A III-8 Aesthetic Values.

Who determines which lands cannot be returned to a suitable aesthet condition? What is suitable to a mining engineer may not be suitable to a Sierra Club member. Suitable needs a definition.

Page B III-15 Stockpiling of Topsoil.

A definition of topsoil is spelled out on p. B III-23 as the A Horiz This should be referenced here and elsewhere as appropriate.

Page B III-45, top paragraph. Need a definition of "small acreages" referring to farming and undeveloped rangelands. Clarification is needed for small acreages of farmlands which vary considerably from dry farm acres in the west to farms in the east. Also most rangelan have some form of development on them; e.g., fences, reservoirs, spring developments, corrals, etc.

Page B III-109, third paragraph. The statement, "Lands which cannot reclaimed will not be mined". This an admirable goal but it may not be attainable. There is a need for a definition or clarification of what is reclaimed.

Page B IV-2. The states would probably prefer alternative B. Estab general objectives or goals for the states.

We appreciate the opportunity to review the subject document.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV 27 5 49 PM '78
DEPT. ... R
OFFICE OF
SURFACE MINING

[illegible]

OFFICE OF THE
ADMINISTRATOR

Mr. Walter N. Heine
Director
Office of Surface Mining
Reclamation and Enforcement
Department of the Interior
Washington, D.C. 20240

Dear Mr. Heine:

The Environmental Protection Agency (EPA) has completed its review of the Draft Environmental Impact Statement (DEIS) for the Permanent Regulatory Progrsm Implementing Section 501(b) of the Surface Mining Control and Reclamation Act of 1977.

EPA's review of the DEIS has been confined only to the adequacy of the impact statement, and has not dealt directly with any reservations or objections to the proposed action. Such reservations or objections are to be dealt with separately through EPA's ongoing concurrence review effort.

We believe that the DEIS contains insufficient information to assess fully the environmental impact of the proposed action in several areas. Our specific comments follow.

The Final EIS should be expanded to include a discussion of the impacts of surface mining on wetlands. Section A III B (pg. 5) states that the special vegetative qualities of prime farmlands, primarily in the midwest, and alluvial valleys, exclusively in the West, will be preserved. The degree to which the proposed regulations will preserve valuable wetlands should also be examined. This Section further states that mining will be prohibited in areas where satisfactory vegetation cannot be reestablished. It should be recognized that the reestablishment of a wetland plant community, is especially difficult and may be quite expensive. Wetlands require specific elevations, surface and subsurface flow patterns, soil types, bottom topography, hydrologic regimes, and often support complex species associations.

The Section on the jurisdiction of the U.S. Army Corps of Engineers (pg. B16) should explain that the "waters of the United States" include wetlands. Wetlands generally include swamps, marshes, bogs and similar areas.

Part B1 should discuss the President's Exeucutive Orders on Wetlands and Floodplains, 11990 and 11988, dated May 24, 1977. Executive Order 11990 states that each agency shall provide leadership and shall take action to minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.

In addition, the discussion of EPA's responsibility, beginning on page BI-3, should be expanded to more fully describe EPA's responsibilities for regulating air and water pollution. In particular, EPA can regulate nonpoint sources and discharges to groundwater. Section 304(e) of the Clean Water Act allowa EPA to control runoff to surface waters if the runoff contains toxic or hazardous pollutants. Section 402(b)(1)(D) of the Clean Water Act authorizes NPDES States to issue permits which control the disposal of pollutants into wells. Furthermore, sections 1421-1424 of the Safe Drinking Water Act authorize EPA and states approved under section 1422(a) to issue regulations and permits to control underground injections (defined in the statute as the subsurface emplacement of fluids by well injections). Section 1424 specifically establishes a mechanism for sole source aquifer determination and protection through withholding of Federal financial assistance. Subtitle C and Subtitle D of the Resource Conservation and Recovery Act, do now, or may later include controls over environmental contamination from coal waste disposal including protection against both surface water and groundwater pollution.

We hope that our comments will be of assistsnce to your office in preparing the Final EIS.

Sincerely yours,

Peter L. Cook

Peter L. Cook
Acting Director
Office of Federal Activities (A-104)

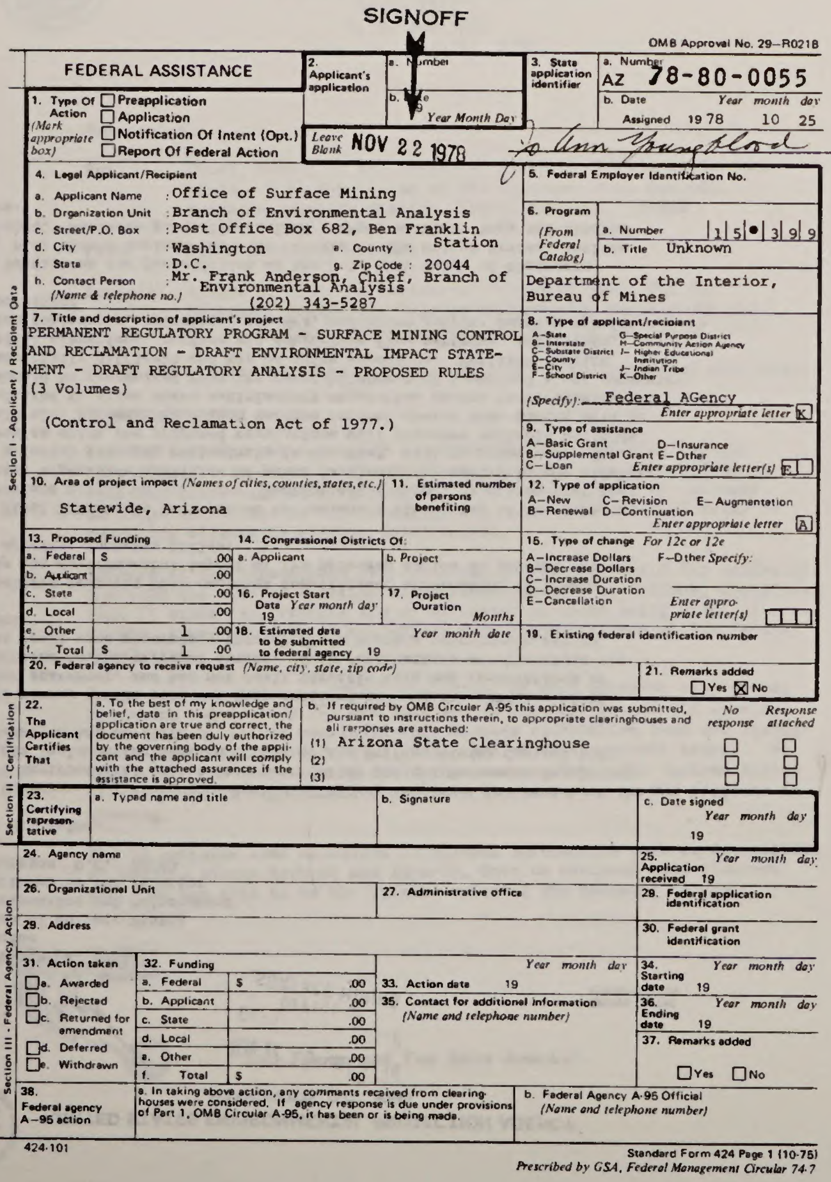
UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT

To the Record 11/27 5:48 PM

I certify that I received these comments in hand at 4:59 PM. Mon Nov. 27th, 1978

Byron Swift
Office of Solicitor
Div. Surface Mining
DOI.

APPENDIX B: STATE AGENCY COMMENTS



SIGNOFF

OMB Approval No. 29–R0218

FEDERAL ASSISTANCE

2. Applicant's application
a. Number
b. Date Year Month Day 19

3. State application identifier
a. Number AZ 78-80-0055
b. Date Assigned Year month day 19 78 10 25

1. Type Of Action (Mark appropriate box)
☐ Preapplication
☐ Application
☐ Notification Of Intent (Opt.)
☐ Report Of Federal Action

Leave Blank NOV 22 1978

Jo Ann Youngblood

4. Legal Applicant/Recipient
a. Applicant Name : Office of Surface Mining
b. Organization Unit : Branch of Environmental Analysis
c. Street/P.O. Box : Post Office Box 682, Ben Franklin Station
d. City : Washington
e. County :
f. State : D.C.
g. Zip Code : 20044
h. Contact Person (Name & telephone no.) : Mr. Frank Anderson, Chief, Branch of Environmental Analysis (202) 343-5287

5. Federal Employer Identification No.

6. Program (From Federal Catalog)
a. Number 15.399
b. Title Unknown

Department of the Interior, Bureau of Mines

7. Title and description of applicant's project
PERMANENT REGULATORY PROGRAM - SURFACE MINING CONTROL AND RECLAMATION - DRAFT ENVIRONMENTAL IMPACT STATEMENT - DRAFT REGULATORY ANALYSIS - PROPOSED RULES (3 Volumes)

(Control and Reclamation Act of 1977.)

8. Type of applicant/recipient
A–State
B–Interstate
C–Substate District
D–County
E–City
F–School District
G–Special Purpose District
H–Community Action Agency
I–Higher Educational Institution
J–Indian Tribe
K–Other
(Specify): Federal AGency
Enter appropriate letter K

9. Type of assistance
A–Basic Grant
B–Supplemental Grant
C–Loan
D–Insurance
E–Other
Enter appropriate letter(s) E

10. Area of project impact (Names of cities, counties, states, etc.)
Statewide, Arizona

11. Estimated number of persons benefiting

12. Type of application
A–New
B–Renewal
C–Revision
D–Continuation
E–Augmentation
Enter appropriate letter A

13. Proposed Funding

a. Federal	$	.00
b. Applicant		.00
c. State		.00
d. Local		.00
e. Other	1	.00
f. Total	$ 1	.00

14. Congressional Districts Of:
a. Applicant
b. Project

15. Type of change For 12c or 12e
A–Increase Dollars
B–Decrease Dollars
C–Increase Duration
D–Decrease Duration
E–Cancellation
F–Other Specify:
Enter appropriate letter(s)

16. Project Start Date Year month day 19

17. Project Duration Months

18. Estimated date to be submitted to federal agency Year month date 19

19. Existing federal identification number

20. Federal agency to receive request (Name, city, state, zip code)

21. Remarks added ☐ Yes ☒ No

22. The Applicant Certifies That
a. To the best of my knowledge and belief, data in this preapplication/application are true and correct, the document has been duly authorized by the governing body of the applicant and the applicant will comply with the attached assurances if the assistance is approved.
b. If required by OMB Circular A-95 this application was submitted, pursuant to instructions therein, to appropriate clearinghouses and all responses are attached:

	No response	Response attached
(1) Arizona State Clearinghouse	☐	☐
(2)	☐	☐
(3)	☐	☐

23. Certifying representative
a. Typed name and title
b. Signature
c. Date signed Year month day 19

24. Agency name

25. Application received Year month day 19

26. Organizational Unit

27. Administrative office

28. Federal application identification

29. Address

30. Federal grant identification

31. Action taken
☐ a. Awarded
☐ b. Rejected
☐ c. Returned for amendment
☐ d. Deferred
☐ e. Withdrawn

32. Funding

a. Federal	$	.00
b. Applicant		.00
c. State		.00
d. Local		.00
e. Other		.00
f. Total	$	.00

33. Action date Year month day 19

34. Starting date Year month day 19

35. Contact for additional information (Name and telephone number)

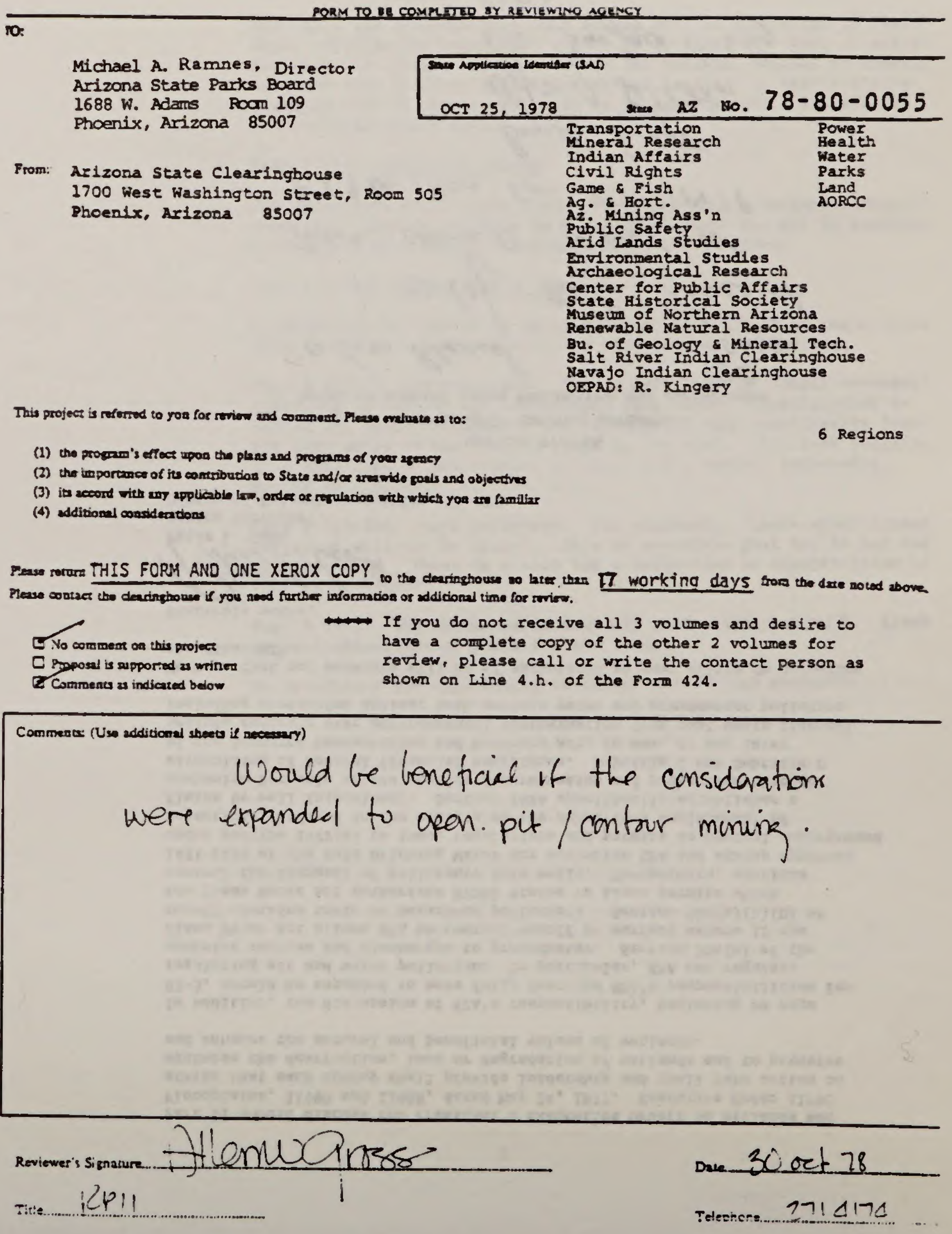
36. Ending date Year month day 19

37. Remarks added ☐ Yes ☐ No

38. Federal agency A–95 action
a. In taking above action, any comments received from clearinghouses were considered. If agency response is due under provisions of Part 1, OMB Circular A-95, it has been or is being made.
b. Federal Agency A-95 Official (Name and telephone number)

424-101

Standard Form 424 Page 1 (10-75)
Prescribed by GSA, Federal Management Circular 74-7



FORM TO BE COMPLETED BY REVIEWING AGENCY

TO:

Michael A. Ramnes, Director
Arizona State Parks Board
1688 W. Adams Room 109
Phoenix, Arizona 85007

State Application Identifier (SAI)
OCT 25, 1978 State AZ No. 78-80-0055

From: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

Transportation
Mineral Research
Indian Affairs
Civil Rights
Game & Fish
Ag. & Hort.
Az. Mining Ass'n
Public Safety
Arid Lands Studies
Environmental Studies
Archaeological Research
Center for Public Affairs
State Historical Society
Museum of Northern Arizona
Renewable Natural Resources
Bu. of Geology & Mineral Tech.
Salt River Indian Clearinghouse
Navajo Indian Clearinghouse
OEPAD: R. Kingery

Power
Health
Water
Parks
Land
AORCC

6 Regions

This project is referred to you for review and comment. Please evaluate as to:

(1) the program's effect upon the plans and programs of your agency
(2) the importance of its contribution to State and/or areawide goals and objectives
(3) its accord with any applicable law, order or regulation with which you are familiar
(4) additional considerations

Please return THIS FORM AND ONE XEROX COPY to the clearinghouse no later than 17 working days from the date noted above. Please contact the clearinghouse if you need further information or additional time for review.

☑ No comment on this project
☐ Proposal is supported as written
☑ Comments as indicated below

If you do not receive all 3 volumes and desire to have a complete copy of the other 2 volumes for review, please call or write the contact person as shown on Line 4.h. of the Form 424.

Comments: (Use additional sheets if necessary)

Would be beneficial if the considerations were expanded to open. pit / contour mining.

Reviewer's Signature Allen W Gross
Date 30 oct 78
Title RPII
Telephone 271 4174

FORM TO BE COMPLETED BY REVIEWING AGENCY

TO:

Mr. James R. Carter, Director
Agriculture & Horticulture Dept.
421 Capitol Annex West
Phoenix, Arizona 85007

State Application Identifier (SAI)

OCT 25, 1978 State AZ No. 78-80-0055

From: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

Transportation
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Comments: (Use additional sheets if necessary)

Reviewer's Signature James R. Carter Date 10/26/78

Title Director Telephone 271-4373

FORM TO BE COMPLETED BY REVIEWING AGENCY

TO:

Mr. Clinton M. Pattea
Executive Secretary
Indian Affairs Commission
1645 West Jefferson St.
Phoenix, AZ 85007

State Application Identifier (SAI)

OCT 25, 1978 State AZ No. 78-80-0055

From: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

Transportation
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☐ Proposal is supported as written
☐ Comments as indicated below

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Comments: (Use additional sheets if necessary)

Reviewer's Signature Clin Pattea Date 11-9-78

Title Telephone

FORM TO BE COMPLETED BY REVIEWING AGENCY

TO:
Mr. Earl Pearson, Director
Office of Management & Prog. Dev.
Salt River Indian Clearinghouse
Route 1, Box 215
Scottsdale, Arizona 85256

State Application Identifier (SAI)
OCT 25, 1978 State AZ No. 78-80-0055

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Salt River Indian Clearinghouse
Navajo Indian Clearinghouse
OEPAD: R. Kingery

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From:
Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

This project is referred to you for review and comment. Please evaluate as to:

6 Regions

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Comments: (Use additional sheets if necessary)

Reviewer's Signature [illegible]
Date [illegible]
Title
Telephone

FORM TO BE COMPLETED BY REVIEWING AGENCY

TO:
Mr. Robert Jantzen, Director
Game and Fish Dept.
2222 W. Greenway
Phoenix, Arizona 85023

State Application Identifier (SAI)
OCT 25, 1978 State AZ No. 78-80-0055

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OEPAD: R. Kingery

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From:
Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

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Comments: (Use additional sheets if necessary)

Reviewer's Signature John [illegible]
Date Oct. 31, 1978
Title Supv. Planning & Eval. Br.
Telephone [illegible]

FORM TO BE COMPLETED BY REVIEWING AGENCY

TO:

Dr. James Becker
Center for Public Affairs
Arizona State University
Tempe, Arizona 85281

State Application Identifier (SAI)
OCT 25, 1978 State AZ No. 78-80-0055

From: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

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☐ Proposal is supported as written
☒ Comments as indicated below

Comments: (Use additional sheets if necessary) The intent of the legislation basic to this set of documents may be reasonably represented in the passages on p . AIV-1 of the DES: "OSM's proposed regulations should have an even greater beneficial effect on long-term uses of the environment and the productivity of the land." In light of this intent, the following sentence in the Draft Regulatory Analysis of September, 1978, seems at best superfluous, and the document would be improved with its omission: p. 135: "This central finding...should not be interpreted to deny the importance of continued effort to insure that the regulations do not cause undue problems, delays, or costs to individual operators, large or small."

Reviewer's Signature K. J. Becker
Date 10-30-78

Title Prof. Center for Public Affairs
Telephone 965-3926

FORM TO BE COMPLETED BY REVIEWING AGENCY

TO:

Mr. Les Ormsby, Admin.
Arizona Power Authority
1810 West Adams Street
Phoenix, Arizona 85005

State Application Identifier (SAI)
OCT 25, 1978 State AZ No. 78-80-0055

From: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

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☒ No comment on this project
☐ Proposal is supported as written
☐ Comments as indicated below

Comments: (Use additional sheets if necessary)

Reviewer's Signature Les Ormsby
Date 10/26/78

Title

Telephone

FORM TO BE COMPLETED BY REVIEWING AGENCY

TO:

Mr. Arthur Garcia, Exec Dir.
Assistant Attorney General
AZ Civil Rights Division
1645 W. Jefferson Street
Phoenix AZ 85007

State Application Identifier (SAI)

OCT 25, 1978 State AZ No. 78-80-0055

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From: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

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☐ Comments as indicated below

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Comments: (Use additional sheets if necessary)

RECEIVED
OCT 26 1978
ARIZ. CIVIL RIGHTS DIVISION

Reviewer's Signature Arthur G. Garcia

Date

Title Executive Director

Telephone 271-5263

FORM TO BE COMPLETED BY REVIEWING AGENCY

TO:

Andy Sandoval, Exec. Director
NACOG, Region III
119 E. Aspen St.
Flagstaff AZ 86001

State Application Identifier (SAI)

OCT 25, 1978 State AZ No. 78-80-0055

Transportation
Mineral Research
Indian Affairs
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☐ Comments as indicated below

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Comments: (Use additional sheets if necessary)

Reviewer's Signature Andy Sandoval

Date Nov. 10, 1978

Title I. Andy Sandoval, Executive Director, NACOG

Telephone 774-1895

FORM TO BE COMPLETED BY REVIEWING AGENCY

TO:

Mr. Frank Servin, Exec. Dir.
District IV Council of Gov'ts
377 South Main St., Room 202
Yuma, Arizona 85364

State Application Identifier (SAI)
OCT 25, 1978 State AZ No. 78-80-0055

From: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

Transportation
Mineral Research
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Comments: (Use additional sheets if necessary)

Reviewer's Signature Terry Kearney
Date 11/1/78
Title Natural Resource Planner
Telephone 602 782 1886

FORM TO BE COMPLETED BY REVIEWING AGENCY

TO: Mr. James E. Ayres
Associate Archaeologist
Arizona State Museum
The University of Arizona
Tucson, AZ 85721

State Application Identifier (SAI)
OCT 25, 1978 State AZ No. 78-80-0055

From: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

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☐ Comments as indicated below

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Comments: (Use additional sheets if necessary)

Reviewer's Signature JEAyres
Date November 7, 1978
Title Associate Archaeologist
Telephone 626-1761

FORM TO BE COMPLETED BY REVIEWING AGENCY

TO:

Mr. David Landrith, Executive
Director, SEAGO
118 Arizona Street
Bisbee, Arizona 85603

State Application Identifier (SAI)
OCT 25, 1978 State AZ No. 78-80-0055

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Salt River Indian Clearinghouse
Navajo Indian Clearinghouse
OEPAD: R. Kingery

Power
Health
Water
Parks
Land
AORCC

780386

From: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

This project is referred to you for review and comment. Please evaluate as to:

6 Regions

(1) the program's effect upon the plans and programs of your agency
(2) the importance of its contribution to State and/or areawide goals and objectives
(3) its accord with any applicable law, order or regulation with which you are familiar
(4) additional considerations

Please return THIS FORM AND ONE XEROX COPY to the clearinghouse no later than 17 working days from the date noted above. Please contact the clearinghouse if you need further information or additional time for review.

☑ No comment on this project
☐ Proposal is supported as written
☐ Comments as indicated below

***** If you do not receive all 3 volumes and desire to have a complete copy of the other 2 volumes for review, please call or write the contact person as shown on Line 4.h. of the Form 424.

Comments: (Use additional sheets if necessary)

Reviewer's Signature
Date
Title
Telephone

FORM TO BE COMPLETED BY REVIEWING AGENCY

TO:

Mr. John Blackburn, Exec. Dir.
Central Arizona Association
of Governments
P.O. Box JJ (1810 Main St.)
Florence, AZ 85232

State Application Identifier (SAI)
OCT 25, 1978 State AZ No. 78-80-0055

Transportation
Mineral Research
Indian Affairs
Civil Rights
Game & Fish
Ag. & Hort.
Az. Mining Ass'n
Public Safety
Arid Lands Studies
Environmental Studies
Archaeological Research
Center for Public Affairs
State Historical Society
Museum of Northern Arizona
Renewable Natural Resources
Bu. of Geology & Mineral Tech.
Salt River Indian Clearinghouse
Navajo Indian Clearinghouse
OEPAD: R. Kingery

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From: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

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Comments: (Use additional sheets if necessary)

Reviewer's Signature
Date November 9, 1978
Title Regional Planner Director
Telephone 868-5878

FORM TO BE COMPLETED BY REVIEWING AGENCY

TO:

Dr William H. Dresher, Director
Arizona Bureau of Geology &
Mineral Technolgy
University of Arizona
Tucson, Arizona 85721

State Application Identifier (SAI)
OCT 25, 1978 State AZ No. 78-80-0055

From: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

Transportation
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Indian Affairs
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6 Regions

OCT 1978
COLLEGE of MINES
UNIVERSITY OF ARIZONA

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☐ Proposal is supported as written
☒ Comments as indicated below

Comments: (Use additional sheets if necessary)

3 volumes of what??
So they 1 2 3?
which one?

Reviewer's Signature William H. Dresher Date 11-1-78

Director Telephone 626-1943

FORM TO BE COMPLETED BY REVIEWING AGENCY

TO:

Mr. John Jett, Director
Mineral Resources Department
Fairgrounds, Mineral Building
1826 West McDowell Road
Phoenix, Arizona 85007

State Application Identifier (SAI)
OCT 25, 1978 State AZ No. 78-80-0055

From: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

Transportation
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Indian Affairs
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☐ Proposal is supported as written
☐ Comments as indicated below

Comments: (Use additional sheets if necessary)

Reviewer's Signature J Jett Date 11-1-78

Title

Telephone

FORM TO BE COMPLETED BY REVIEWING AGENCY

TO:

Mr. Sidney B. Brinckerhoff, Dir.
Arizona Historical Society
949 East Second Street
Tucson, AZ 85719

State Application Identifier (SAI)

OCT 25, 1978 State AZ No. 78-80-0055

From: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

Transportation
Mineral Research
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Comments: (Use additional sheets if necessary)

Reviewer's Signature Sidney B. Brinckerhoff
Date Oct. 30, 1978
Title Director
Telephone 882-5725

ARIZONA
OFFICE OF THE GOVERNOR

OFFICE OF
ECONOMIC PLANNING AND DEVELOPMENT

1700 West Washington, Rm. 505
General Offices of OEPAD • 4th Floor
271-5004

November 24, 1978

Mr. Frank Anderson, Chief
Branch of Environmental Analysis
Office of Surface Mining
P.O. Box 682, Ben Franklin Station
Washington, D.C. 20044

Re: Permanent Regulatory Program-Surface Mining Control and Reclamation-Draft Environmental Impact Statement
Draft Regulatory Analysis-Proposed Rules S.A.I. #78-80-0055

Dear Mr. Anderson:

Enclosed is a copy of a response concerning the above project which was received by us after our Signoff to you.

Sincerely,

Jo Youngblood/ss

Mrs. Jo Youngblood, Supervisor
Arizona State Clearinghouse
JY:ss
Encl.

Mailing Address: Executive Tower Room 505 • 1700 West Washington • Phoenix, Arizona 85007

FORM TO BE COMPLETED BY REVIEWING AGENCY

TO:

Dr. Suzanne Dandoy, Director
Department of Health Services
1740 West Adams Street
Phoenix, Arizona 85007

State Application Identifier (SAI)
OCT 25, 1978 State AZ No. 78-80-0055

From: Arizona State Clearinghouse
1700 West Washington Street, Room 505
Phoenix, Arizona 85007

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☒ No comment on this project
☐ Proposal is supported as written
☐ Comments as indicated below

Comments: (Use additional sheets if necessary)

Reviewer's Signature R. Bruce Scott
Date NOV 20 1978
Title ASSISTANT DIRECTOR
ARIZONA DEPT OF HEALTH SERVICES
DIV OF ENVIRONMENTAL HEALTH SERVICES
Telephone

Department of Local Affairs
Colorado Division of Planning
Philip H. Schmuck, Director

1876
Richard D. Lamm, Governor

November 16, 1978

The Office of Surface Mining
U. S. Department of the Interior
P. O. Box 682
Benjamin Franklin Station
Washington, D.C. 20240

SUBJECT: Draft Environmental Statement 78-42
Surface Mining Control and Reclamation Act of 1977

Gentlemen:

The above-referenced environmental statement was received by the Colorado Clearinghouse and circulated among interested state agencies. The enclosed agency comments have resulted and are forwarded for your consideration in the final statement.

Thank you for the opportunity to review this matter.

Very truly yours,

SOEllis

Stephen O. Ellis
Principal Planner

SE/CGJ/vt
Enclosure

cc: Office of the Governor
Department of Natural Resources

RECEIVED
11-20-78

520 State Centennial Building, 1313 Sherman Street, Denver, Colorado 80203 (303) 892-2351

RICHARD D. LAMM
Governor

C.J. KUIPER
State Engineer

DIVISION OF WATER RESOURCES

Department of Natural Resources
1313 Sherman Street - Room 818
Denver, Colorado 80203
Administration (303) 839-3581
Ground Water (303) 839-3587

November 14, 1978

MEMORANDUM

TO: STEPHEN O. ELLIS, STATE CLEARINGHOUSE

FROM: DR. JERIS A. DANIELSON, DEPUTY STATE ENGINEER

SUBJECT: DRAFT ENVIRONMENTAL STATEMENT - PERMIT AND REGULATORY PROGRAM IMPLEMENTING SECTION 501(b) OF THE SURFACE MINING CONTROL AND RECLAMATION ACT OF 1977

This is to acknowledge receipt of the above referenced statement concerning implementation of the Surface Mining Control and Reclamation Act. We have reviewed the water resource aspects of the statement and while they are general in nature and the effects beneficial in most cases as shown by Table 811, we do have a concern relating to Section 816.53 - Wells.

This section allows the regulatory authority to approve the transfer of exploratory or monitoring wells for use as water wells. The stated purpose is to allow local use of ground water for beneficial purposes. We must make it absolutely clear that the authority to allow wells to be constructed or used for the diversion of ground water for beneficial purposes rests with the State of Colorado through the Division of Water Resources.

The "regulatory authority" does not have the capacity or authority to evaluate the effect of the use of the well upon other water rights and whether there is unappropriated water available for beneficial use. This section must be changed to state that the regulatory authority may approve the transfer of exploratory or monitoring wells after a well permit is issued by the State agency having authority over the use of ground water.

We believe that the requirements of Section 816.54 - Water Rights which requires replacement of a water supply if damaged by a mining operation to be a desirable goal; although the procedure under which this is accomplished is not indicated. There is no procedure outlined showing upon whom the burden of proof rests with regard to identifying and quantifying injury.

NOV 14 1978
DIV. OF PLANNING

We trust that the above comments can be incorporated into the Final Environmental Statement. If you have need for additional discussion on these, please feel free to contact us.

Jeris A. Danielson

JAD/HDS:mvf

STATE of INDIANA
STATE BOARD OF HEALTH
AN EQUAL OPPORTUNITY EMPLOYER

INDIANAPOLIS
Address Reply to:
Indiana State Board of Health
1330 West Michigan Street
Indianapolis, IN 46206

November 10, 1978

Office of Surface Mining
U. S. Department of the Interior
P. O. Box 682
Benjamin Franklin Station
Washington, D. C. 20044

Dear Sir:

Re: Rules & Regulations for the Implementation of the Surface Mining Control and Reclamation Act of 1977/Environmental Impact Review

Members of the State Air Pollution Control Division staff have reviewed the draft environmental impact statement on the permanent program rules and regulations for the implementation of the Surface Mining Control and Reclamation Act of 1977.

Said draft environmental impact statement appears to comply with the intent of the Indiana Plan of Implementation.

We request that the final environmental impact statement be furnished us for our review when it becomes available.

Very truly yours,

Harry D. Williams/by H. R. Smith

Harry D. Williams, Director
Air Pollution Control Division

DTR/sdp
cc: L. Robert Carter

State of Louisiana
Department of Urban and Community Affairs
Office of Planning and Technical Assistance

EDWIN EDWARDS
GOVERNOR

LEON R. TARVER, JR.
SECRETARY

CARL WILKINS
ASSISTANT SECRETARY

October 20, 1978

Mr. Frank Anderson
Office of Surface Mining
U. S. Department of the Interior
Post Office Box 682
Benjamin Franklin Station
Washington, D. C. 20044

Re: Draft Environmental Impact Statement on the Permanent Program Rules and Regulations for the Implementation of the Surface Mining Control and Reclamation Act of 1977

Dear Mr. Anderson:

We are in receipt of the above referenced environmental assessment and have reviewed it for state and local agency review responsibilities. Those agencies selected to receive and review a copy of the statement are listed below. Any comments forthcoming from the agencies will be forwarded to you prior to the comment closing date.

A copy of the statement will be kept on file in our library for public inspection.

We appreciate the opportunity to review this proposal.

Sincerely,

George P. Gullett

George P. Gullett
Environmental Coordinator
Office of Planning and
Technical Assistance

GPG:se

COPIES SENT TO: Office of Science, Technology and Environmental Policy
Department of Wildlife and Fisheries
Department of Natural Resources
Louisiana Geological Survey
Division of Archeology and Historic Preservation
Kisatchie-Delta Regional Planning Commission
(see attachment)

COPIES SENT TO:	Capital Region Planning Commission
	Rapides Planning Commission
	Imperial Calcasieu Regional Planning Commission
	South Central Regional Planning Commission
	Acadiana Regional Planning Commission
	Coordinating and Development Council of Northwest Louisiana
	North Delta Regional Planning Commission
	Office of Program Development
	State Planning Office
	Coastal Zone Management
	Bureau of Environmental Services
	Office of Forestry
	Stream Control Commission
	Office of Public Works
	Sabine Parish Planning Commission

State of Louisiana

R.T. SUTTON
COMMISSIONER

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

P.O. BOX 44275
BATON ROUGE, LA. 70804

NOV 25 5 21 PM '78
OFFICE OF
SURFACE MINING

November 22, 1978

Office of Surface Mining
Department of Interior
P. O. Box 682
Benjamin Franklin Station
Washington, D. C. 20044

Dear Sirs:

The State of Louisiana, Office of Conservation, which is charged with the responsibility for implementing and enforcing the Louisiana Surface Mining Act, submits the following comments on the draft environmental statement on the permanent regulatory program implementing Section 501(b) of the Surface Mining Control and Reclamation Act of 1977.

Louisiana is concerned that the draft statement does not adequately discuss the environmental impacts on Louisiana that will result from adoption of the proposed rules or an available alternative. The regional discussions in the draft statement do not correctly assess the impacts that will occur in Louisiana. Louisiana has repeatedly requested rules that will allow the State to properly regulate its coal mining industry. We have pointed out that our heavy rainfall, locally swampy conditions, ease of revegetation, and so forth often make the adoption of detailed nationwide standards inappropriate and even counterproductive. This problem certainly should be discussed in the final statement.

Al alternative that is not mentioned in the draft statement is adoption of rules on a state-by-state basis, or at least on a region-by-region basis where areas are classified into regions by established criteria. Though OSM has stated that the Act requires uniform national standards, this certainly cannot be true where such national standards are inappropriate. Indeed, we believe that OSM is attempting to accomplish nationwide performance standards such as restoration to approximate original contour, by imposing nationwide methods for accomplishing these goals. In the impact statement OSM should identify those standards that it believes must be uniform throughout the nation, and then describe the proposed and the alternative approaches available for accomplishing those standards. Where the proposed approach is nationwide OSM should describe why that approach is considered superior to an approach that considers each state or region individually.

Our final comment concerns the socio-economic analysis. Undoubtedly the proposed rules will impede coal production and the positive economic affects that are associated with coal production: the more complex the regulatory program and the more prohibitions, the greater the adverse socio-economic impacts. The final statement should identify and not attempt to minimize these effects; they could be quite severe. Indeed, the socio-economic impact of each rule or set of rules should be addressed individually so that a proper decision can be made concerning the adoption of that proposed rule or adoption of an available alternative.

Thank you for considering these comments.

Yours very truly,

R. T. SUTTON, Commissioner
Office of Conservation

By Arnold C Chauviere
Arnold C. Chauviere
Assistant Commissioner

RTS/ACC/mr

State of Louisiana

WILLIAM C. HULS
SECRETARY

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF FORESTRY
(LOUISIANA FORESTRY COMMISSION)

O.L. McFATTER
ASSISTANT SECRETARY AND
STATE FORESTER

November 13, 1978

The Office of Surface Mining
U. S. Department of the Interior
P. O. Box 682
Benjamin Franklin Station
Washington, D. C. 20044

RE: Draft Environmental Statement
Permanent Regulatory Program
Implementing Section 501(b)
of the Surface Mining Control
and Reclamation Act of 1977

Gentlemen:

We are in receipt of your undated letter of transmittal and attachments in connection with the above captioned program, and your request for comments on same.

I wish to take this opportunity to officially protest the totally unrealistic deadline of November 17 imposed upon respondents. This material was received in this office the week of November 5, and it is impossible to meaningfully evaluate a program of such magnitude and a document of such size in less than 12 days, allowing for mailing time.

I have reviewed the draft environmental statement insofar as possible under the deadline provided, and generally find it well done and thorough in addressing the significant problems involved in surface mining. It is my opinion that adoption of this proposed regulatory program will provide protection, enhancement, and proper restoration for all forest and related land values while permitting removal of potentially workable coal deposits.

I would have no further comments to make at this time.

Thank you for the opportunity of a hurried review of this material.

Vernon E. Robinson

VERNON E. ROBINSON - CHIEF, ENVIRONMENTAL RELATIONS

JB

cc: State Forester
Associate State Forester

P.O. BOX 1628 . BATON ROUGE, LA. 70821
5150 FLORIDA BOULEVARD

OSTEP

OFFICE OF SCIENCE, TECHNOLOGY & ENVIRONMENTAL POLICY

Edwin W. Edwards, Governor • • Lee W. Jennings, Director

October 20, 1978

The Office of Surface Mining
U.S. Department of the Interior
P.O. Box 682
Benjamin Franklin Station
Washington, D.C. 20044

RE: Permanent Regulatory Program
Implementing Section 501 (b)
of the Surface Mining control
and reclamation Act of 1977

Gentlemen:

The above-referenced matter concerning environmental quality has been received and reviewed by the staff of the Office of Science, Technology and Environmental Policy. From the information contained in the package sent to our office, the staff of OSTEP issues a no objection on this particular project. The rules and regulations governing this project should continue to be in full compliance with all State and Federal regulatory agencies.

The staff of OSTEP appreciates this opportunity to participate in the review process.

Sincerely,

Wm J. Mollere

William J. Mollere
Manager, Administration and
Operations

WJM/cdh

cc: Mr. George Gullett, Environmental Coordinator
Office of Planning and Technical Assistance
Department of Urban and Community Affairs

STATE CAPITOL BUILDING POST OFFICE BOX 44095 BATON ROUGE, LA 70804 (504) 389-2349

NATIONAL SPACE TECHNOLOGY LABORATORIES, NSTL STATION, MISSISSIPPI 39529 (601) 688-3003

MARYLAND
DEPARTMENT OF STATE PLANNING
301 WEST PRESTON STREET
BALTIMORE, MARYLAND 21201
TELEPHONE: 301-383-2451

MARVIN MANDEL
GOVERNOR

VLADIMIR A. WAHBE
SECRETARY OF STATE PLANNING

November 22, 1978

Mr. Frank Anderson
Chief, Branch of Environmental Analysis
Office of Surface Mining
Washington, D.C. 20240

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT (EIS) REVIEW
Applicant: U.S. Department of Interior
Project: Draft EIS and Proposed Regulations for the Implementation of the Surface Mining Control Act of 1977
State Clearinghouse Control Number: 79-10-477
State Clearinghouse Contact: James McConnaughhay (383-2467)

Dear Mr. Anderson:

The State Clearinghouse has reviewed the above project. In accordance with the procedures established by the Office of Management and Budget Circular A-95, the State Clearinghouse received comments from the following:

Department of Economic and Community Development including their Historical Trust section, Environmental Health Administration, Allegany County, Washington County and our staff: noted that the statement appears to adequately cover the areas of interest to their agencies.

Tri-County Council for Western Maryland and the Baltimore Regional Planning Council: advised that they are still reviewing the project and can not meet the review deadline established for the project. If significant comments are received, the State Clearinghouse will forward such comments by separate letter.

Department of Natural Resources: referred (copy attached) to the October 4, 1978 letter from the Governor of Maryland concerning the proposed regulations and advised that their Department would soon forward additional comments directly to the applicant.

We appreciate your agency's attention to the A-95 review procedures and look forward to continued cooperation in the future.

Sincerely,

Vladimir Wahbe

Vladimir A. Wahbe

cc: Lowell Frederick/Donald Noren/B.R.Sansom/Barry Teach/Tim Dugan/
Stephen Kocsis/Henry Silbermann/Lee Zeni/Nadine Jones 78-424/
Patricia Rogow

paw

Maryland Department of State Planning
State Office Building
301 West Preston Street
Baltimore, Maryland 21201

Date: [illegible]

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT REVIEW

Applicant: U.S. Department of Interior

Project: Draft EIS & Proposed Regulations for the Implementation of the Surface Mining Control Act of 1977

State Clearinghouse Control Number: 79-10-477

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item	
	None	Comment enclosed
1. Additional specific effects which should be assessed:		
2. Additional alternatives which should be considered:		
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:		
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible or irretrievable commitment of resources:		
5. Our assessment of how serious the environmental damage from this project might be, using the best alternative and control measures:		
6. We identify issues which require further discussion of resolution as shown:		X *

Signature

Title Admin E+CZA

Agency

[illegible] DEPARTMENT [illegible] RESOURCES

* We are sending detailed comments direct to Office of Surface Mining per Governor's letter of 4 Oct attached.

October 4, 1978

Mr. Walter Heine, Director
Office of Surface Mining
U. S. Department of the Interior
Washington, D. C. 20240

Dear Mr. Heine:

I am responding, in part, to the recent request of Mr. Charles A. Beasley for a review of the Proposed Regulations for the Permanent Regulatory Program, pursuant to the Surface Mining Control and Reclamation Act of 1977. Detailed comments on the proposed regulations will be forthcoming from the Maryland Department of Natural Resources; however, I am taking this opportunity to express my overall dissatisfaction with these regulations and the process employed to promulgate them.

There apparently is a wide variance between the stated commitment of the Office of Surface Mining to a cooperative intergovernmental effort in this instance and the actions of your Office as witnessed by Maryland mining officials. If I correctly interpret Governor Rockefeller's remarks of September 11, 1978 before the Senate Energy and Natural Resources Committee-Subcommittee on Public Lands, other coal-producing states seem to be of the same opinion.

Section 101(f) of Public Law 95-87 states that because of regional diversity, "primary governmental responsibility for developing, authorizing, issuing, and enforcing regulations for surface mining and reclamation operations subject to this Act should rest with the States." Section 501(b) requires the Secretary of the Interior to promulgate regulations "which shall be concise and written in plain, understandable language. . . ." The initial program regulations adopted December 13, 1977 and the Proposed Rules for the Permanent Regulatory Program printed in the September 18, 1978 Federal Register appear to violate both of these Congressional mandates. The regulations have been drafted in such detail that they preclude State management flexibility in prescribing the practices or means by which the underlying environmental objectives of the Act are to be achieved. Consequently, there is only a perfunctory opportunity for State participation.

The promulgation process employed by your agency also gives us cause for concern. During July, 1978, several hundred pages of preproposed draft regulations were announced as available for public review and comment. The September 18 Federal Register states that these draft regulations were made available on July 3 and July 21. However, it was our experience that they were not actually available until one week before the public meetings held in early August. Now, approximately one month after the public meetings, the Office of Surface Mining has promulgated the Proposed Rules for Permanent Regulatory Program without including the Environmental Impact Statement, the Regulatory Fiscal Analysis, and the Preamble to the Regulations.

It is inconceivable that the states will have less than sixty days to evaluate and provide comment on nearly 2,000 pages of regulations and related documents. Furthermore, the entire process of issuing initial program regulations and the proposed permanent regulations has created considerable confusion for Maryland's mining regulation effort and our coal industry.

The problem is compounded when one considers that Public Law 95-87 required the Secretary of the Interior to draft regulations within one year (August 3, 1978) of the date of enactment, and required the states to submit proposed programs within eighteen months (February 3, 1979) of the date of enactment. The Office of Surface Mining has missed its August 3, 1978 deadline and will probably not adopt final regulations before January 1, 1979. However, the Office of Surface Mining has indicated that it cannot relax the February 3, 1979 deadline imposed upon the states for submission of their programs.

On September 14, 1978, Maryland joined representatives from the States of Kentucky, Indiana, Pennsylvania, Virginia, and West Virginia, and the Executive Director of the Interstate Mining Compact in meetings with Congressman Morris Udall and yourself. We requested (1) the full six-month period envisioned under the Act to allow the states to prepare and submit proposed regulatory programs, and (2) the creation of a Federal-State task force to formulate permanent program regulations and revise the initial program regulations. Congressman Udall indicated that it was "too late" to amend the Act to provide the states six months from the date of adoption of the Federal Regulations to submit their proposed programs. You indicated that it was "too late" to hold up publication of the Federal Register containing the proposed permanent program regulations and that it would not be possible to establish a joint task force.

Consequently, I am of the opinion that the actions of the Office of Surface Mining in implementing Public Law 95-87 will not ensure a cooperative Federal-State surface mining effort that will balance the protection of the environment and the production of coal. Maryland's experienced mining and reclamation personnel are of the opinion that in certain areas the Proposed Rules for Permanent Regulatory Program will degrade rather than protect Maryland's environment. When insult is added to injury, in view of the efforts of the Office of Surface Mining to recruit Maryland's mine reclamation personnel, we fail to observe any true efforts on the part of the Federal government to cooperate with us.

The Surface Mining Control and Reclamation Act is too important a piece of legislation to allow its implementation to create confrontation, chaos and confusion between the Federal government and the state regulatory agencies. I strongly advise that serious consideration be given to Governor Rockefeller's recommendations on this matter included in his remarks to the Senate Subcommittee, particularly with respect to the formation of a Federal-State task force to rewrite clear, workable surface mining regulations.

Sincerely,

Blair Lee III
Acting Governor

BL:LZ:grc

cc: Governor John D. Rockefeller IV
Senator Charles McC. Mathias, Jr.
Senator Paul Sarbanes
Senator Dale Bumpers
Congressman Robert E. Bauman
Congressman Goodloe Byron
Congresswoman Marjorie S. Holt
Congressman Clarence D. Long
Congresswoman Barbara Mikulski
Congressman Parren Mitchell
Congresswoman Gladys Noon Spellman
Congressman Newton I. Steers, Jr.

F/NC

OFFICE OF THE GOVERNOR
Planning & Coordination
1503 Walter Sillers Building
JACKSON, MISSISSIPPI 39201
354-7018

CLIFF FINCH
GOVERNOR

JAMES A FLEMING
DIRECTOR

STATE CLEARINGHOUSE FOR FEDERAL PROGRAMS

TO: United States Department of the Interior
Office of Surface Mining, Reclamation
and Enforcement
Washington, D.C. 20240

Attn: Frank Anderson

STATE CLEARINGHOUSE NUMBER
78101605

DATE: November 3, 1978

PROJECT DESCRIPTION:

Draft Environmental Statement on the permanent program rules and regulations for the implementation of the Surface Mining Control and Reclamation Act of 1977.
Nationwide

The State Clearinghouse, in cooperation with the state agencies interested or possibly affected, has completed the A-95 review of the project described above.

None of the state agencies involved in the review had comments or recommendations to offer at this time. This concludes the State Clearinghouse review, and we encourage appropriate action as soon as possible.

A copy of this letter is to be attached to the application as evidence of compliance with the A-95 requirements.

Lester Howell

Lester Howell, Coordinator
Clearinghouse for Federal Programs

State of Missouri
OFFICE OF ADMINISTRATION
P.O. Box 809
Jefferson City 65102

Joseph P. Teasdale
Governor

William D. Dye, Director
Division of Budget and Planning

November 17, 1978

The Office of Surface Mining
U.S. Department of the Interior
P.O. Box 682
Benjamin Franklin Station
Washington, D.C. 20044

Gentlemen:

Subject: 78100068

The Division of Budget and Planning, as the designated State Clearinghouse, has coordinated a review of the above referred draft environmental impact statement with various concerned or affected state agencies pursuant to Section 102(2)(c) of the National Environmental Policy Act.

None of the state agencies involved in the review had comments or recommendations to offer at this time.

We appreciate the opportunity to review the statement and anticipate receiving the final environmental impact statement when prepared.

Sincerely,

Lois Pohl

Lois Pohl
Chief, Grants Coordination

NORTH DAKOTA STATE PLANNING DIVISION

STATE CAPITOL · NINTH FLOOR · BISMARCK, NORTH DAKOTA 58505
701-224-2818

November 10, 1978

STATE INTERGOVERNMENTAL CLEARINGHOUSE "LETTER OF COMMENT"
ON PROJECT REVIEW IN CONFORMANCE WITH OMB CIRCULAR NO. A-95

To: U.S. Dept. of Interior, Office of Surface Mining
Reclamation and Enforcement

STATE APPLICATION IDENTIFIER: 7810119990

Office of Surface Mining
U.S. Department of the Interior
P.O. Box 682
Benjamin Franklin Station
Washington, D.C. 20044

Dear Sir:

Subject: Draft EIS by U.S. Department of the Interior, Office of Surface Mining Reclamation and Enforcement for Draft EIS: Permanent Regulatory Program of the Surface Mining Control and Reclamation Act of 1977.

This Draft EIS was received in our office October 11, 1978.

In the process of the A-95 review, the attached comments were received from Public Service Commission of North Dakota and the State Highway Department.

This document and attachment constitute the comment of the State Intergovernmental Clearinghouse, made in compliance with OMB Circular No. A-95. The ND State Intergovernmental Clearinghouse requests the opportunity for complete re-review of applications for renewal or continuation grants or applications not submitted to or acted on by the funding agency within one year after the date of this letter.

Sincerely yours,

Bonnie A. Banks
Mrs. Leonard E. Banks
Associate Planner

LEB/aj

Attachment

NDSIC FORM B (9/71)

PNRS NO. 13-990

Date Received

RECEIVED
OCT 26 1978
State Planning
Division

FROM: STATE INTERGOVERNMENTAL CLEARINGHOUSE
STATE PLANNING DIVISION
STATE CAPITOL
BISMARCK, NORTH DAKOTA 58501

ENVIRONMENTAL IMPACT STATEMENT TO BE REVIEWED

TO: ROBERT E BRADLEY 662
HIGHWAY DEPARTMENT 14
HIGHWAY BUILDING - CAPITOL GROUNDS
BISMARCK ND 58505

ISSUED BY: U.S. Department of the Interior, Office of Surface Mining Reclamation and Enforcement DATE: 10-18-78

NAME OF PROJECT: Draft EIS: Permanent Regulatory Program of the Surface Mining Control and Reclamation Act of 1977

The attached Environmental Impact Statement is referred to your agency for review and possible comments. If you consider it satisfactory, please check the box labeled, "no comment." Otherwise, please check one of the other appropriate boxes. Your cooperation is asked in completing this memo and returning it to the State Intergovernmental Clearinghouse within 10 days from date of receipt. If no response is received within 15 days of date of notification it will be assumed you have no comment.

☐ No comment

☒ Comments submitted herewith

☐ Meeting desired with applicant

See comments on attached sheet.

1. Specific comments which are to be attached to the review statement which will be submitted by the State Intergovernmental Clearinghouse: (Use reverse side or separate sheets if necessary)

2. Reasons why meeting is desired with applicant:

Reviewer's Signature: Date: October 25, 1978

Title: Chief Engineer Tele: 224-2584

COMMENTS ON DRAFT EIS FOR PERMANENT REGULATORY PROGRAM IMPLEMENTING SECTION 501(B) OF THE SURFACE MINING CONTROL AND RECLAMATION ACT OF 1977

On Page AIII-8, the discussion on Transportation systems indicates there is a possibility that the regulation may result in mining ventures moving from the east to the west and midwest. In so doing, movement of coal between the western mines and eastern users would result in additional usage of railroads. An adverse effect of this shift in the mining of coal would be the increased auto-rail conflicts along the railroad routes being used to transport coal.

On Page BIII-119, it should also be recognized in this section that increased use of rails for transporting coal will result in greater auto-rail conflicts.

COMMENTS ON THE FEDERAL REGISTER DEPARTMENT OF THE INTERIOR OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT

It is suggested that the section of roads 816.31 through 816.38 be revised to include sections whereby it would be necessary that any haul road crossing major highways be separated from the highway traffic and also any roads to be retained for five years or more for use after mining should be designed in accordance with AASHTO design standards. Both horizontal and vertical alignment as well as widths and surfacing should conform to AASHTO standards.

NDSIC FORM B_1 (9-77)

CLEARINGHOUSE USE ONLY
SAI NO. 78-990
DATE RECEIVED:

RECEIVED
OCT 25 1978
State Planning
Division

FROM: STATE INTERGOVERNMENTAL CLEARINGHOUSE
STATE PLANNING DIVISION
STATE CAPITOL
BISMARCK, NORTH DAKOTA 58505 (701-224-2818)

PROJECT NOTIFICATION FOR REVIEW UNDER OMB A-95

DATE: October 18, 1978

TO: DR. ED ENGLERTH, RECLAMATION DIR. 662
PUBLIC SERVICE COMMISSION OF N. D. 27
STATE CAPITOL
BISMARCK ND 58505

PROJECT TITLE: Draft EIS: Permanent Regulatory Program of the Surface Mining Control and Reclamation Act of 1977

APPLICANT: U.S. Department of the Interior, Office of Surface Mining Reclamation and Enforcement

The Clearinghouse has received a Draft EIS for review under OMB Circular No. A-95 for the above project. The project information is to have been sent to your agency directly by the applicant or its agent for your review and comment. Please review the proposal as it affects the plans and programs of your agency as well as those plans with which you are familiar, and indicate your comments below or on a separate sheet. Some general suggestions to assist in your review of projects are on the reverse of this form.

A copy of the proposal is to have been sent to you under separate cover by the applicant.

Your cooperation is requested in completing your review and returning this form to our office within ten (10) days from the date of receipt. If no response or indication of your desire to comment is received within fifteen (15) days of date of notification, it will be assumed you have no comments on the proposal.

The proposed activities ☐ are ☐ are not consistent with state, areawide or local plans with which you are familiar

The proposed activities ☐ do ☐ do not contribute to the implementation of those plans

☑ More review time is needed and comments will be forwarded by (date) closing date set by OSM

☐ No identified conflict (no comment) ☐ Proposal is supported as written

☐ Requests a meeting with the applicant ☐ Desires to review final application

☐ Desires to review environmental assessment (if available)

☐ Comments, identified issues, suggestions, recommendations or suggested stipulations are listed below or attached

☐ Suggest (approval) (disapproval) of the project for the following reasons:

REVIEWER'S SIGNATURE: EJ. Englerth DATE: 22 OCT. 78

TITLE: TELE: 224-2400

COMMONWEALTH of VIRGINIA

Council on the Environment

J. B. JACKSON, JR.
ADMINISTRATOR

903 NINTH STREET OFFICE BUILDING
RICHMOND 23219
804-786-4500

November 27, 1978

The Office of Surface Mining
U.S. Department of the Interior
P. O. Box 682
Benjamin Franklin Station
Washington, DC 20044
Attn: Mr. Frank Anderson

SUBJECT: Permanent Regulatory Program Implementing Section 501(b) of the Surface Mining Control and Reclamation Act of 1977

Dear Mr. Anderson:

Thank you for the opportunity to review the subject Draft Environmental Impact Statement. It is a responsibility of the staff of the Council on the Environment to coordinate the State's review of Federal environmental impact statements and to comment on such statements for the State. The State agencies which participated in the review are listed below:

Office of Commerce and Resources
Commission of Game and Inland Fisheries
Commission of Outdoor Recreation
Department of Conservation and Economic Development
Department of Highways and Transportation
Division of Industrial Development
Marine Resources Commission
State Water Control Board
Virginia Port Authority
Virginia Soil and Water Conservation Commission

The Virginia Department of Conservation and Economic Development has worked closely with the Department of the Interior on matters relating to Office of Surface Mining rules and regulations and has commented for the State on the proposed regulations. In general, the State is anxious to work with both industry and federal officials to identify what is required by the Surface Mining Control and Reclamation Act and to determine how the Act can be implemented to minimize adverse impacts of mining operations in the State while responding to the needs of the mining industry. Federal regulations should recognize the need for latitude in defining procedures to achieve desired results.

The promulgation of regulations to control the adverse effects of surface coal mining operations will generally result in beneficial environmental impacts. The Draft EIS, however, does not fully recognize problems that might occur on a regional or individual state basis. Such problems stem

from the lack of flexibility of the proposed regulations to deal with physical and institutional differences from state to state and region to region.

The Surface Mining Control and Reclamation Act suggests a national objective yet the Draft EIS has rejected this as an alternative to the proposed regulations. The rationale for not allowing states to implement their own statutes and regulations to achieve a national goal is at best poorly prepared. The Draft EIS goes to extremes with the statement, "this alternative would promote so many variations in State programs that the Act's goal of creating a uniform national regulating program is not likely to be achieved." If the environmental problems associated with the surface mining are not the same for each state or region, and further, if the degree of the problems differ from state to state or region to region, then the nation-wide regulations discussed in the EIS as the preferred alternative seem to go beyond the authority conferred by Congress to the Department of the Interior because the regulations and the EIS do not make provisions for controlling specific problems in specific regions of the country. Narratives state that while certain sections of the proposed regulations will have a major effect in one region, the effects in the other regions will be minor or negligible.

Complex topsoiling and subsoiling requirements, the return to approximate original contour requirement, and stream diversion and impoundment construction criteria, when implemented together in Virginia, could by comparison with the State's pre-Act standards increase the total number of acres affected by mining, the length of time disturbed areas are without effective cover and the total area at any given time without effective cover. This in turn would minimize beneficial impacts of the regulations on agricultural productivity by lengthening the period of removal of prime agricultural lands. It would also minimize beneficial effects on fish and wildlife resources and water quality.

A major fault with the Draft EIS lies in its failure to adequately describe the costs of the program. The description of the types of impacts which will be experienced by state and local governments as a result of implementing the permanent regulations is adequate to the extent that it identifies those impacts. The conclusion that these are minor adverse impacts, however, is not substantiated. The costs for each state to administer the permanent program would far exceed whatever costs have been associated with the interim program.

The Draft EIS, together with the Regulatory Analysis, has failed to consider the effects of designation of areas as unsuitable for mining or recovery of coal resources. In addition, the petition process for designation is not analyzed for the potential adverse effects it could have. Finally, the EIS fails to evaluate the environmental harm that would result from bringing existing non-conforming structures into compliance. It is presumed that such facilities are causing pollution. In many cases the environmental damage resulting from these non-conforming structures may be less than the environmental damage which will result from the repair work which would have to be done on the structures.

From a regional standpoint, the impact on certain portions of society will be significant, principally due to the yet undefined extent of compliance cost and mine closures. No attempt was made to evaluate these impacts. The net economic cost/benefit to society is unclear at this point. The draft regulatory analysis does not include the reclamation fee, associated governmental administrative costs, nor adequate assessment of the incremental cost/benefit to society of the regulation relative to existing reclamation practices.

While the section of the statement on the related jurisdiction of other Federal agencies does address the relation of the program with the National Pollutant Discharge Elimination System (NPDES) program authorized by the Clean Water Act, it is suggested that clearer guidance is needed for State agencies authorized to implement these programs. Both programs are seperate and to some extent duplicative, both involve substantial and complex rules and regulations and while the need for coordination to avoid needless duplication of effort is well recognized, no substantive guidance to the states or industry has been provided by the Department of the Interior or the Environmental Protection Agency.

The discussion of auger mining on page BIII-122 focuses on the safety hazards associated with exposed auger holes from abandoned mines. However, the regulatory requirement in Section 819.11 deals with sealing active mine auger holes to prevent environmental harm, and has nothing to do with safety hazards from abandoned auger holes.

Although there is considerable discussion on page BIII-125 of the EIS concerning the technical and administrative requirements related to blasting, there is no reference to the impacts related to the requirement in Section 816.61(c) for training of blasters.

The Draft EIS states that "Depending on Congressional appropriation, the Department of the Interior may be in a position to provide a significant amount of financial aid to the States to meet the costs and burden of implementation." The draft EIS fails to recognize that states are in many cases overburdened by being required to implement federal regulations when state regulations could be adopted that would achieve an acceptable result. Grant money is often used as leverage to get states to adopt Federal programs.

On page BIII-133, "Community Identity and Social Patterns", the Draft EIS fails to recognize the adverse impact that could result in mass mine closings due to inflexible regulations. Failure to recognize the State's ability to regulate mining with the capability of site-by-site variance could result in cease and desist orders for inability to comply. This would result in community instability.

On page BIII-133, "Public Participation", while a greater opportunity for public participation will exist, actual participation increase cannot be assured. Concerned citizens and groups are currently making their feelings known. Increased participation by an organized public sector is questionable.

Please do not hesitate to contact me if I may be of assistance in any way.

Sincerely,

J. B. Jackson, Jr.
Administrator

JBJ:mlt

cc: Honorable Maurice B. Rowe, Secretary of Commerce and Resources
Mr. Fred W. Walker, Conservation and Economic Development
Mr. R. V. Davis, State Water Control Board

STATE OF WASHINGTON
Dixy Lee Ray
Governor

DEPARTMENT OF ECOLOGY
Olympia, Washington 98504 206/753-2800
Mail Stop PV-11

November [illegible], 1978

NOV 2 [illegible] AM '78
DEPT OF INTERIOR
SURFACE MINING

Mr. Mike Mills
Policy Analysis Division
Office of Financial Management
House Office Building
Olympia, Washington 98504

Dear Mr. Mills:

This is in response to your request that we review the Department of the Interior's draft environmental impact statement dealing with surface mining control and reclamation.

By law, the Washington State Department of Natural Resources is charged with carrying out the Surface Mining Land Reclamation Act. There are some areas of potential overlap between the Surface Mining Control and Reclamation Act of 1977 (P.L. 95-87) and the Resource Conservation and Recovery Act of 1976 (P.L. 94-580) which we administer. These appear to present opportunities for coordination at the state level between the Department of Natural Resources and the Department of Ecology. Coal mining waste disposal, material and energy recovery of mining wastes, the application of sludge to enhance vegetative restoration, the development of a more comprehensive data base, and understanding of hydrogeologic mobility of contaminants all seem to be areas that should be coordinated for mutual benefits.

We do not foresee any great impact on our department in the area of water quality. A permit program is required but will be implemented by the Department of the Interior. The proposed regulations specify effluent limits on discharges from the mining site as a part of the permit. The federal regulations preempt state regulations when the federal ones are stricter; otherwise, the state's requirements will be incorporated into the federal program.

I hope these points are useful to you as you prepare the state's response.

Sincerely,

T. L. Elwell
Environmental Review

TLE:sw
111720

cc: Office of Surface Mining
Department of the Interior
Don Ford
Department of Natural Resources

STATE OF WASHINGTON
Dixy Lee Ray
Governor

DEPARTMENT OF TRANSPORTATION KF-01
Highway Administration Building, Olympia, Washington 98504 206/753-6005

November 9, 1978

Mr. Frank Anderson, Chief
Branch of Environmental Analysis
Office of Surface Mining
P. O. Box 682
Benjamin Franklin Station
Washington, D.C. 20044

U. S. Department of the Interior
Surface Mining Control and Reclamation
Act of 1977
Draft Environmental Impact Statement

Dear Mr. Anderson:

We have reviewed the subject document and have no comments to offer regarding the subject proposal.

Thank you for the opportunity to review this information.

Sincerely,

ROBERT S. NIELSEN
Assistant Secretary
Public Transportation and Planning

WM P Albohn

By: WM. P. ALBOHN
Environmental Planner

RSN:tml
WPA/WBH

cc: R. E. Bockstruck
H. B. Ashford
R. Albert
Environmental Section

STATE OF WEST VIRGINIA
GOVERNOR'S OFFICE
OF
ECONOMIC AND COMMUNITY DEVELOPMENT
CHARLESTON 25305

JOHN D. ROCKEFELLER IV
GOVERNOR

DONALD O. MOYER
DIRECTOR

November 21, 1978
File: PNRS-DEIS-S

Mr. Frank Anderson, Chief
Branch of Environmental Analysis
Office of Surface Mining
Washington, D. C. 20240

Dear Mr. Anderson:

The West Virginia State Clearinghouse coordinated review of the draft environmental impact statement on the permanent program rules and regulations for the implementation of the Surface Mining Control and Reclamation Act of 1977, pursuant to Title IV of the Intergovernmental Cooperation Act of 1968, and in part, Section 102(2)(c) of the National Environmental Quality Act.

Comments received from appropriate State agencies raise substantial issues and problems concerning the draft environmental impact statement and program rules and regulations.

Enclosed for your consideration are comments by John F. Herholdt, Jr., Director, Fuel and Energy Office; William Raney, Vice-President, W. Va. Surface Mine and Reclamation Association; Walter N. Miller, Director, State Department of Mines.

The State Clearinghouse adopts these comments as official statements of position concerning the draft environmental impact statement on Section 501 (b) Regulations - Surface Mining Control and Reclamation Act of 1977.

Through an extensive review within their own divisions, the Department of Natural Resources will issue comments concerning their draft environmental impact statement and permanent program rules and regulations to your office. Their position will be accepted as official State Clearinghouse comments, and will augment the general consensus on the draft environmental impact statement by respective State agencies.

If you have any questions concerning the comments, or our review procedures, please contact me or Mr. Timothy Oxley of my staff.

Sincerely,

Daniel S. Green, Manager
Program Support Services

DSG:am
cc: David Callaghan
Walter Miller
William Raney
John F. Herholdt, Jr.

GOVERNOR'S OFFICE OF ECONOMIC AND COMMUNITY DEVELOPMENT
PROGRAM SUPPORT SERVICES
WEST VIRGINIA STATE CLEARINGHOUSE
ROOM B-548, BUILDING #6
CHARLESTON, WEST VIRGINIA 25305

CLEARINGHOUSE USE ONLY

DATE 10/19/7

FILE NO. PNRS-S

Comments concerning this DEIS should be received by this office no later than 11/10/78

(DRAFT) ENVIRONMENTAL IMPACT STATEMENT (DEIS)

TO: Mr. John F. Herholdt, Jr., Director
Fuel and Energy Office, OECD
1261-1/2 Greenbrier Street

FROM: Daniel S. Green, Manager
Program Support Services

DEIS DESCRIPTION: Permanent Program Rules and Regulations for the Implementatio of the Surface Mining Control and Reclamation Act of 1977

The attached (Draft) Environmental Impact Statement is referred to your agency for REVIEW and COMMENTS. If your agency has an interest in this Statement and desires to comment on it please CHECK THE APPROPRIATE BOX. Your cooperation is asked in returning this memo to the State Clearinghouse Office, indicating your interest or not, 10 days from its receipt.

☐ No comment (Please Indicate Reason In Space Below)
☐ Comments being developed
☒ Comments submitted herewith
☐ Comments should more appropriately (or also) come from Agency(s) as listed below.

RECEIVED
NOV 20 1978
STATE CLEARINGHOUSE GOVERNOR'S OFFICE

(Please use reverse side if additional space is needed)

Reviewer's Signature

Date November 17, 1978

Title Director, Fuel and Energy Office

Telephone 348-8860

STATE OF WEST VIRGINIA
GOVERNOR'S OFFICE
OF
ECONOMIC AND COMMUNITY DEVELOPMENT
CHARLESTON 25305

JOHN D. ROCKEFELLER IV
GOVERNOR

DONALD O. MOYER
DIRECTOR

November 17, 1978

RECEIVED
NOV 20 1978
STATE CLEARINGHOUSE GOVERNOR'S OFFICE

Mr. Daniel S. Green, Manager
Program Support Services
Governor's Office of Economic and
Community Development
Room B-548, Building 6
Charleston, West Virginia 25305

Dear Mr. Green:

West Virginia was a strong and early impetus behind the creation of the Office of Surface Mining. There was substantial justification for this initial support. Our State mining regulations have historically been more detailed and thus more stringent than those of other major coal producing states. In taking the lead in reclamation requirements West Virginia often found that coal produced in other areas not restricted by such encompassing regulation was eroding the competitiveness of West Virginia coal. It was felt that nationally standardized regulations would not only mandate universal environmental safeguards, but also maintain the marketability of West Virginia's coal product.

It was encouraging at the time to know that the regulations developed by the State's Department of Natural Resources in conjunction with the Soil Conservation Service of the U.S. Department of Agriculture were to provide a substantial basis for this new regulatory program. What could not be imagined, though, was that the interpretation made in formulating the new regulations would have the potential of reversing many of the progressive actions taken thus for by the State. For instance, if West Virginia coal operators were to adhere to the new OSM rules pertaining to sedimentation ponds, in many instances the ponds would be larger than the existing valleys they were designed to be placed. This type of situation is not unique to West Virginia. Many of the mountainous states practicing contour mining will incur similar difficulties in an attempt to comply with such ill conceived requirements.

Regulations of this nature are counter productive to the national policy of increased coal production, particularly in the Appalachian states. The cost effect of the new OSM rules could force small marginal coal producers out of the market as well as inhibit the entry of new coal producers.

Comments have been reproduced in the form originally received by OSM.

Hopefully, the OSM will take into account the unique geologic and topographic characteristics of individual states in their assessment of the various state programs to be proposed.

Sincerely,

John F. Herholdt, Jr.
Director
Fuel and Energy Office

JFHJr:djd

cc: James Maddy
David Callaghan

AB-33

State of West Virginia
Department of Mines
Charleston 25305

WALTER N. MILLER
DIRECTOR

EDWARD JARVIS
DEPUTY DIRECTOR

November 6, 1978

Mr. Daniel Green, Manager
Program Support Service
Economic and Community Development

Dear Mr. Green:

I have outlined section by section as near as possible as to your request. However, I am sure you realize that a great majority of these regulations pertain to the Department of Natural Resources.

To summarize the entire context, it appears to me that, should a state fail to present a program as how to satisfy the new Surface Mining Control Reclamation Act of 1977, the Federal Government will enforce their own proposed regulations.

In my opinion, to implement any type of additional regulations of any sort, merely to be equal or to be above the Federal requirements without a real objective, is meaningless, uselss and can be deteriorating to present and in most instances, adequate regulations.

A State Government should be permitted to function on its own independent power source, but close enough and in harmony with other branches of Government so as to be advised when and where needed.

I believe the State of West Virginia is big enough and certainly capable enough to implement any regulation when and where needed.

Sincerely yours,

Walter N. Miller, Director

RECEIVED
NOV 9 1978
STATE CLEARINGHOUSE GOVERNOR'S OFFICE

GOVERNOR'S OFFICE OF ECONOMIC AND COMMUNITY DEVELOPMENT
PROGRAM SUPPORT SERVICES
WEST VIRGINIA STATE CLEARINGHOUSE
ROOM B-548, BUILDING #6
CHARLESTON, WEST VIRGINIA 25305

CLEARINGHOUSE USE ONLY
DATE: 10/19/78
FILE NO: PNRS-S
Comments concerning this DEIS should be received by this office no later than: 11/10/78

(DRAFT) ENVIRONMENTAL IMPACT STATEMENT
(DEIS)

TO: Mr. Walter Miller, Director
Department of Mines
Bldg. 1, Room EW-151

FROM: Daniel S. Green, Manager
Program Support Services

DEIS DESCRIPTION: Permanent Program Rules and Regulations for the Implementation ~~of the Surface Mining Control and Reclamation Act of 1977~~

The attached (Draft) Environmental Impact Statement is referred to your agency for REVIEW and COMMENTS. If your agency has an interest in this Statement and desires to comment on it please CHECK THE APPROPRIATE BOX. Your cooperation is asked in returning this memo to the State Clearinghouse Office, indicating your interest or not, 10 days from its receipt.

☐ No comment (Please Indicate Reason In Space Below)
☐ Comments being developed
☑ Comments submitted herewith
☐ Comments should more appropriately (or also) come from Agency(s) as listed below.

RECEIVED
NOV 9 1978
STATE CLEARINGHOUSE GOVERNOR'S OFFICE

(Please use reverse side if additional space is needed)

Reviewer's Signature Date 11-9-78

Title Director, Department of Mines Telephone 348-2051

AB-34

COMMENTS AS TO THE PROPOSED RULES FOR PERMANENT REGULATORY PROGRAM, DATED MONDAY, SEPTEMBER 18, 1978.

Section 701.4	West Virginia can most certainly implement an approved program by June 3, 1980 since it presently has effective regulations and can re-evaluate and restructure, if needed the present regulations for Federal approval, all of which will achieve the same regulatory results.
Section 779.13	Should the hydrologic consequences be required to be known about a certain area before a permit is issued would create extensive engineering, extreme delay in many cases where this information would be of little value anyway.
Section 779.23	The wording of certain qualified professionals could be detrimental as to our present code concerning a "certified land surveyor."
Section 780.12	The controlling of blasting could best be achieved as is presently being under our code as each blast may require a different approach.
Section 780.17	The reclamation and all properties connected there with can justly and effectively be regulated by our present agencies and regulations.
Section (Part 782.783)	The existing regulations as to underground opening permits are adequate and there is a great difference between a deep-mine and a surface mine permit. Many conditions must be considered for opening a deep-mine. (Example: Old or adanded deep mines in close proximity.) Existing bodies of surface water impoundments. Elevations as to water run off, etc.
Section 784.13	This type of regulation could be extremely misleading, not practicable for some underground coal seams. And would most certainly be doctoring only the symptoms. This problem is presently existing very much so in existing adanded mines and should in my opinion be taken care of first.
Section 784.19	This section may be very worthy and certainly some type of a subsidence plan should be implemented. However, extensive engineering will be required beyond the scope and means of the normal coal mine operator. The Government could and should take care of such a related program.
Section 784.25	To return processing waste to adanded underground mine workings is very much valid and should of been implemented years ago where large operations are present.

RECEIVED
NOV 9 1978
STATE CLEARINGHOUSE GOVERNOR'S OFFICE

Section 785.18	Present regulations and permits are adequate. To comply with this regulation, extensive engineering would be needed and even then, much speculation would occur.
Section 785.21	Processing plants should be permitted with the prime objective being safe operating controls and responsibility placement.
Section 816.01-816.05	It would be impossible to reshape the contour to near original.
Section 817.13	The present state laws are adequate.
Section 817.121	Vast engineering must be done and then in most cases it will be speculating.

RECEIVED
NOV 13 1978
STATE CLEARINGHOUSE GOVERNOR'S OFFICE

WEST VIRGINIA SURFACE MINING AND RECLAMATION ASSOCIATION 1624 KANAWHA BOULEVARD, EAST • CHARLESTON, WEST VIRGINIA 25311 • (304) 346-5318

November 9, 1978

Mr. Daniel S. Green, Manager
Program Support Services
GOECD
State Capitol Building
Charleston, West Virginia 25305

Dear Dan:

As requested by your memorandum of 10/19/78, I have enclosed our comments to the Draft Environmental Impact Statement for the permanent implementation of P.L. 95-87.

These comments were prepared in rough draft form but due to the time constraints I am submitting them in this form. I feel you will find them to be thorough but rough. Please excuse their condition.

I might also point out that these were prepared in conjunction with a task force of NCA/AMC, but they do represent a comprehensive review and project valid commentary. I trust you will find them helpful.

If we should be of any further assistance, please do not hesitate to notify us at any time.

Sincerely,

Bill

William B. Raney
Vice-President

njamin C. Greene
President
illiam B. Raney
Vice-President

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Charles T. Jones
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CHARLESTON, WEST VIRGINIA 25305

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DATE 10/19/78
FILE NO: PNRS-S
Comments concerning this DEIS should be received by this office no later than: 11/10/78

(DRAFT) ENVIRONMENTAL IMPACT STATEMENT (DEIS)

TO: Mr. William Raney, Vice President
W. Va. Surface Mine and Reclamation Assoc.
1624 Kanawha Blvd., East

FROM: Daniel S. Green, Manager
Program Support Services

DEIS DESCRIPTION: Permanent Program Rules and Regulations for the Implementation of the Surface Mining Control and Reclamation Act of 1977

The attached (Draft) Environmental Impact Statement is referred to your agency for REVIEW and COMMENTS. If your agency has an interest in this Statement and desires to comment on it please CHECK THE APPROPRIATE BOX. Your cooperation is asked in returning this memo to the State Clearinghouse Office, indicating your interest or not, 10 days from its receipt.

☐ No comment (Please Indicate Reason In Space Below)
☐ Comments being developed
☐ Comments submitted herewith
☐ Comments should more appropriately (or also) come from Agency(s) as listed below.

(Please use reverse side if additional space is needed)

Reviewer's Signature Date 11/9/78

Title Vice-President; W.Va. Surface Mining & Reclamation Association Telephone (304) 346-5318

WEST VIRGINIA SURFACE MINING AND RECLAMATION ASSOCIATION

PART A: STATEMENT OF ENVIRONMENTAL IMPACT

PART A: STATEMENT OF ENVIRONMENTAL IMPACT

Section I: Introduction

Page AI-2 and AI-3:

The draft EIS has not stated the base from which the impacts of the permanent program regulations have been measured. In one instance the base is specified as the "pre-Act environmental impacts." This would imply that State laws would be taken into account. However, the draft EIS provides that these State laws were not considered. But then the draft EIS comes full circle and states that the base is not "zero" and, surprisingly, ties the regulation impacts back to "previously existing Federal and State requirements."

The absence of an articulated base appears to be a fundamental deficiency in the draft EIS. Coal companies have not gone unregulated, and any base should take into account existing State laws on a state-by-state basis or on a regional basis. It is also not enough for the draft EIS to fall back on the theory that State requirements will be considered in the context of OSM approval of State programs or the implementation of Federal programs because such actions are exempt from NEPA under 702(d) of SMCRA.

Section III: Environmental Impacts

A. NATIONAL IMPACTS

Page AIII-1: Agricultural Productivity

The draft EIS states that the proposed regulations will have a major beneficial impact nationally in preserving agricultural productivity. This statement is unfounded and is not supported by Part B, Section III of the draft EIS. The Soil Conservation Service estimates there are currently over 250 million acres of prime farmland in the United States. Of this amount, approximately 800,000 acres are irretrievably lost to agricultural production due to competing forms of land use. And, of this 800,000 acres, surface mining for coal accounts for only 21,800 acres of prime farmland per year. It follows, therefore, that the national impact of the regulation on agricultural productivity will at best be of only minor beneficial effect. This impact is further reduced because the surface mined land is only temporarily removed from use for agricultural productivity.

Page AIII-1: Quality of Water

The implication in the EIS conclusion that the quality of water resources will be preserved by way of the OSM regulations ignores existing Federal and State water laws that already protect the nation's water resources through the regulation of effluent. The determination of major national benefit demonstrates again the draft EIS deficiency of using what appears to be a "zero" base despite statements to the contrary in the draft EIS.

Page AIII-1: Fish and Wildlife Resources

The conclusion of "major national benefit", particularly with respect to threatened and endangered animals and plants, entirely disregards existing Federal laws that protect such animals and plants on all lands, federal and nonfederal. It is noted that there is an implication in the draft EIS discussion that this protection extends only to the animals and plants on federal lands.

In support of its major benefit conclusion, the Draft EIS also states that contemporaneous reclamation in combination with revegetation requirements will return land disturbed by mining to productive habitats for wildlife more promptly than has been the case under pre-Act standards.

However, most state laws presently require contemporaneous or concurrent reclamation and there is nothing in the proposed regulations which suggests reclamation will occur more promptly than was the case under pre-Act standards. In fact, the exact opposite may well be true due to topsoil and sub-soil removal storage and replacement requirements, return to approximate original contour, elaborate drainage and water treatement design and restoration of land use potential.

A substantial number of acres will be disturbed that would not have been disturbed under existing state laws in the midwest and elsewhere. Further, the area disturbed may on the average remain denuded and exposed to the elements for a greater length of time under the proposed regulations than was the case under pre-Act standards because of the topsoiling and sub-soiling requirements.

It may also be necessary to re-affect many areas the second time after they have become stable under the proposed regulations to return the land to original contour and restore land use potential. Wildlife habitat will certainly be displaced as a result. Returning land to a condition where it is capable of supporting all uses it was capable of supporting prior to mining will invariably place post-mining land use pressures on the land which will reduce its attractiveness as wildlife habitat and in many cases will result in land uses such as row-crop farming, which displace many forms of wildlife. It is quite obvious that the draft EIS has not considered these circumstances in the alternatives used to arrive at the major benefit conclusion.

Page AIII-2:

It is discussion on plant varieties that the draft EIS emphasizes the diversity that will result from the regulations. However, this appears to be nothing more than an advocacy argument since the regulations require that only "native" species be used unless otherwise approved by the regulatory authority.

Page AIII-2:

We would also dispute the conclusion of OSM air quality control regulation having a major impact in reducing coal mining's contribution to air pollution in the West, unless it comes as the result of curtailment of mining. For the past several years, EPA and the western states have been developing a regulatory program for air pollution resulting from surface mining in the west. Fugitive dust emissions are already being reduced to the maximum extent possible through EPA's air quality regulations (PSD and non-attainment). Further, the draft EIS conclusion is completely unsubstantiated in Part B.

The SMCRA does not mandate OSM to establish its own reclamation program for the control of air pollution as has been proposed in the permanent regulations. Instead, it requires that the operator demonstrate compliance with applicable air quality laws and regulations, see Section 508(a)(9) of the Act. Since the EPA Program is being developed independent of the OSM Program, it is difficult to understand why the OSM Program which should under the express language of the statute amount to nothing more than a required demonstration of compliance with existing law is deemed to have major national significance. We have been unable to locate any provision of the Act which expressly authorizes OSM to establish its own air quality program. Therefore, the program is not only unnecessary but unauthorized as well.

B. IMPACTS ON SPECIFIC RESOURCES, INCLUDING UNAVOIDABLE ADVERSE IMPACTS

As an introductory comment, it is noted that Section III-B is revealing as to what is not contained in the discussion, as well as what is discussed. Specifically, no discussion is given in the draft EIS--or in the Draft Regulatory Analysis--

to the economic effects on coal recovery by the regulations' performance standards for protection of: topography and geology; soil resources; water resources; vegetation; wildlife; aquatic life; cultural resources; esthetic values; prime farmlands; alluvial valley floors; and areas unsuitable.

Page AIII-3:

The conclusion that the fugitive dust control measures required by the regulation will contribute to achievement and maintenance of "other applicable Feeral and State air quality standards" is at best misleading, and certainly is not supported by Part B of the draft EIS. For example, OSM's system of controls and monitoring does not take into account the high degree of complexity of the PSD regulations which render post construction monitoring virtually meaningless. For example, the PSD increments do not consider sources constructed prior to January 6, 1975; emissions from sources ordered to burn certain coal; and increased emissions from sources involved in certain fuel conversions.

Page AIII-4: Soil Resources

The draft EIS characterizes the removal of vegetative cover and topsoil handling as a "minor" adverse affect of mining. There is no supporting basis for such a statement in Part B or in fact. Generally speaking, the greater the potential for air, water and other environmental damage. The regulations go too far in the soil resource requirements. Alternatives, unexplored by the draft EIS and OSM, are available that will reduce what is likely to be a major environmental price for an environmental regulations and still achieve the protection desired.

One effect cited in the soil resources is limiting the damage to the "nation's best soil." A casual survey of where mining occurs would appear to contradict this "best soil" idea.

Page AIII-4: Water Resources

The draft EIS discusses how reclamation activities will assure minimum local disturbance to water resources. The discussion includes mention of both "effluent limitations" and "design criteria" to minimize any water pollution. These are two very different concepts. Currently, the Environmental Protection Agency (under the Federal Water Pollution Control Act) has programs to control water pollution from coal mining and other mining activities. Sections 301 and 304 provide for the promulgation of "effluent guidelines" which reflect best available technology and will meet "water quality standards." Sections 201 and 208 provide for the regulation (by EPA and the states) of nonpoint sources of pollution such as mining activities. These programs are also designed to meet "water quality standards." While OSM responsibilities and concerns concerning water resources are recognized, achievement of water performance standards should be left under the administration of one federal agency, EPA, and OSM and EPA should work out regulations for their common objectives. SCMRA certainly would permit such a concept of single rather than overlapping jurisdiction and enforcement.

Page AIII-5 Vegetation:

There is no justification for the inference that under existing state law revegetation requirements will lead to a permanent cover that is not compatible with the proposed post-mining land use.

The concepts of natural succession and plant diversification have been evolving on the state level for several years now, and they have now evolved to the point that most states recognize their importance to planned post-mining land use. As has previously been mentioned, this concept of contemporaneous reclamation is not new and therefore will not reduce the length of time disturbed areas are without effective cover. What is new, however, and is not mentioned is the elaborate topsoiling and subsoiling requirements, return to approximate original contour, stream diversion and impoundment construction criteria. Together these regulations could increase the total number of acres affected by mining; the length of time distrubed areas are without effective covers and the total area at any given time without effective cover. OSM has chosen to gloss over all this with the casual remarks that this is inevitable and should be of minor consequence.

Page AIII-5 and 6: Wildlife and Aquatic Life

The draft EIS cited numerous questionnable values of its regulation but ignores very real wildlife problems created by the proposed regulations which would tend to mitigate any beneficial effect. For example, no meaningful evaluation is given to the potential adverse impact the topsoil handling provision, land use provisions, approximate original contour provisions, and hydrology provisions may have on wildlife. The combined effect of these provisions could:

1. Result in more acres of affected land than has previously occurred.
2. Result in larger acres of de-nuded land at any given time.
3. Result in areas remaining de-nuded for longer periods of time.
4. Result in re-affecting an area that have been previously affected then stabilized for an extended period of time.
5. Result in land use pressures that are not compatible with the future well being of fish and wildlife resources.

Further, as has been previously pointed out, existing federal laws already provide protection for those plants and animals in the threatened and endangered class. Moreover, the draft EIS makes a gross generality unsupported anywhere that "mining can contribute to the extinction of a rare species." This is an outrageously self-serving statement.

What is also evident is the failure of the draft EIS to establish and consider the relationship of cost and effort for protection and enhancement of wildlife and aquatics to the value of the resource being protected and enhanced. This is even more apparent when it is considered that there is no effort to equate value of these resources to value of the coal resource, especially in light of the fact that mining is a temporary use activity.

Broad statements are made on the impacts of mining on wildlife and aquatics. However, the draft EIS falls short in describing the impacts in turns of degree of real effect; there is no separation, then, for degree of real effect that mining

With specific regard to aquatic life, there is no discussion given to the relationship of the effects of existing water quality control regulations to what these proposed regulations are intended to do. The effect of this is an indirect justification of the proposed regulations in general without regard to existing requirements, and also leads to the conclusion that the need for these regulations lies in a lack of regulation of water quality at present.

The wildlife and aquatic life evaluation is but another example of a justification for the regulations rather than an objective evaluation for the decisionmaker.

Page AIII-7: Land Use

The major fault in the draft EIS is that it together with the Regulatory Analysis, has failed to consider the effects of designation of areas as unsuitable for mining on recovery of the coal resource.

Secondly, the petition process for designation is not analyzed for the potential adverse effects it could have. For example, there must be consideration given to the potential effects of tieing up coal resource lands in the petition process when they justifiably should not warrant the scrutiny except for allegations of the petitioner.

Also, no projection is made as to the burdens to subareas and communities and their capabilities and resources that may be placed because of land use planning requirements.

Nor is this equated further to the effects it may have on coal development planning and its uncertainties as a result of inefficient, inexperienced land use planning.

Page AIII-8: Transportation Systems

The draft EIS concludes that upgrading of transportation facilities will result in minor beneficial impact. What this fails to evaluate is the environmental harm that will result in bringing existing non-conforming structures into compliance. It is presumed that such facilities are causing pollution. In many cases the environmental damage resulting from these non-conforming structures is probably far less than the environmental damage which will result from the repair work which must be done on the structure. A much more sensible approach would seem to be proceeded on a case-by-case basis to determine the measures required to deal with non-conforming structures. Otherwise, the adverse impacts far exceed any so-called "minor beneficial impact."

Page AIII-8 and 9: Safety

The draft EIS appears to be unaware of MSHA in this evaluation. MSHA has vigorously enforced the provisions of mine safety laws for the past 10 years, and yet there is no attempt to take into consideration what the impact from the OSM regulations upon this federal agency will be. The draft EIS gratuitously notes in its evaluation that safety risks which result from unregulated mining include danger to mineworkers...from blasting, sudden subsidence, landsides, and failure of fills and dams.

MSHA which is the agency with responsibility for protection of the safety of miners will, no doubt, be interested in the support, which is now lacking, for how OSM will provide the miners with safety where MSHA has failed.

Page AIII-9: State and Local Governments

The description of the types of impacts which will be experienced by state and local governments as a result of implementing the permanent regulations is adequate to the extent that it identifies those impacts. However, the conclusion that these are minor adverse impacts is not substantiated. With the exception of a superficial estimate of the number of additional personnel which may be required, the draft EIS makes no effort to quantify the extent or the cost of these impacts to the states. In some cases, these costs could be very high. The costs for each state to administer the permanent program will far exceed whatever costs have been associated with the interim programs. There is no assurance or substantive evaluation to demonstrate that federal grants will be able to mitigate this impact, and these additional costs, even with partial federal grants, will have to be recovered through additional tax revenues. The statement should have quantified these impacts and considered alternative methods of certifying and administering state programs which would have been less costly.

Page AIII-9: Socioeconomic Impacts

The terse statement that overall the regulations will have minor beneficial socioeconomic impact is indicative of the inadequate consideration that has been given in the draft EIS to an area of extreme importance. From a regional standpoint, the impact on certain portions of society will be significant, principally due to the yet undefined extent of compliance cost and mine closures. No attempt was made to evaluate these impacts.

Demographic changes in the size and location of mining operations will occur because compliance costs per ton vary considerably depending on such factors as method of mining, geological conditions, and mine size. It is anticipated that a number of mines primarily in Appalachia and the Midwest will shutdown resulting in a loss of employment for citizens directly and indirectly affected. Employment at large efficient surface mines will increase, as these mines offset lost production, but not correspondingly since large mines tend to be more capital and energy intensive and less labor intensive. The lost production offset from underground mines may result in a net increase in employees. Increases in employment and cost will occur in the government sector to administer these regulations. The net result is that in certain geographic regions significant unemployment and mine closures may occur.

On both the state and federal level there is ever increasing concern over the rapidly increasing costs of electrical energy to domestic and commercial consumers alike. These concerns are altering peoples energy consumption habits and generating calls for reform in utility rate structures and methods of determining rate increases.

Since 39 states representing 97 percent of the coal production already had mining and reclamation laws, these new regulations will only marginally improve the long term productivity and use of land affected by mining. In addition, the inflexibility of the regulations may discourage technological efforts to improve reclamation practices beyond those specifically established by the regulations.

Citizen alienation appears likely to increase because the regulations are inflexible to the needs and wants of the individual land owners, tend to shift control to the federal government and away from the state and local governments, and increase government involvement in the lives of citizens. Partially offsetting this are the public participation provisions of the regulations.

Finally, the net economic cost/benefit to society is unclear at this point since the draft regulatory analysis does not include the reclamation fee, associated governmental administrative costs, nor adequate assessment of the incremental cost/benefit to society of the regulation relative to existing reclamation practices. The regulations will definitely increase governmental expenditures and consumer costs and may or may not result in marginal improvement in the environment, land use, and overall benefit to society.

These issues need to be addressed in more detail in the draft EIS to insure the proposed regulations and administrative program do in fact benefit society including the impact on major coal producing regions.

It should also be pointed out that it is not sufficient to dismiss the need in this draft EIS by referring to the draft regulatory analysis. Environmental law cases consistently find that economic impacts must be analyzed.

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Section IV: Relationship Between Local Short-Term Use of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

Page AIV-1:

The draft EIS asserts that the regulations provide an opportunity for more innovative mining firms to improve the efficiency of their operations and improve their production in light of the future regulatory certainties established by the permanent regulatory program. Such a self-serving assertion is challenged and requires support of which there is none to be found. It is more likely that because of the inflexibility of the regulations, there will be less innovation.

Further, there is no regulatory certainty because OSM reserves the right to require revisions to programs on its own without any guidelines for proposing the revisions.

Section V: Irreversible and Irretrievable Commitments of Resources

Page AV-1

The draft EIS states that the anticipated increases in personnel, equipment and materials described in the above paragraph are some of this increased costs of compliance which are more fully described in the Regulatory Analysis. We have reviewed the Regulatory Analysis and do not find where the anticipated increases are "more fully described". The Regulatory Analysis does contain cost tables which appear on their face to be both inadequate and inaccurate but these cost tables are not fully described so the reader is unable to evaluate the figures without obtaining the back-up material relied upon by OSM to compile the tables.

It is further stated in the draft EIS that the costs associated with mitigating the adverse environmental impacts of mining are transferred from society to the industry. This is a misleading statement. Society will always pay the costs associated with mitigating the adverse environmental impacts of mining or anything else. These costs are passed on to society in the form of higher prices for energy and products produced by energy.

Because society pays more for the same amount of energy and products, we have what is known as inflation. Failure on the part of the Government to recognize or admit that its regulations are contributing to inflation, result in citizen alienation from government and social unrest, ie.g., strikes and demonstrations.

Section VI: Summary of Alternatives To the Proposed Federal Action

The courts have required impact statements to discuss all reasonable alternatives to a proposed action, including alternatives outside the jurisdiction of the initiating agency. Judicial interpretation has required that an agency also demonstrate a reasonable "balancing" of environmental and other considerations in its choice of a proposed action over alternatives. Indeed SMCRA itself requires a "balancing" "...between protection of the environment...and the Nation's needs for coal as an essential source of energy..." (Section 102(f).

The draft EIS does not discuss all reasonable alternatives, nor does it demonstrate a reasonable balancing of environmental and other considerations, over alternatives.

The alternatives analyzed in the draft EIS are only the residual set of alternatives considered by OSM before writing the draft EIS. The first set of alternatives were the options that OSM must have considered regarding the approach to the draft EIS to analyze the degree of change between pre-Act environmental impacts of coal mining and post-permanent regulatory program impacts of coal mining on the environment. The EIS rejects the alternative of analyzing conditions in the states having coal reserves. Yet, OSM has obviously attempted to analyze state laws and regulations in terms of their effectiveness in controlling adverse environmental impacts. It is stated on page AI-3 of the draft EIS:

> "...nor should the proposed regulations be considered from the point of view that they represent previously unheard of or untried requirements. In many cases, precedent will be found in previously existing state requirements."

If OSM has seen fit to incorporate specific requirements from specific state statutes and regulations, then it is a reasonable expectation that OSM should have investigated and considered the reasons why particular state mandates are or are not universally incorporated in each state that regulates coal mining activities. If the environmental problems associated with surface mining are the same for each state or region, then the incorporation of specific state requirements into a nationwide federal program is justified. However, if the environmental problems associated with surface mining are not the same for each state or region, and further, if the degree of the problems differ from state to state or region to region, then the nationwide regulations discussed in the EIS as the preferred alternative are a miscarriage of the responsibility and authority conferred by Congress to OSM because the regulations and the EIS do not make provisions for controlling specific problems in specific regions of the country. For example, this is obvious when the Table BII and the accompanying narrations are examined. Again and again the narratives state that while certain sections of the proposed regulations will have major effects in one region, the effects in the other regions will be minor or negligible. The preponderence of such conclusions in the draft EIS analysis

AB-46

naturally raises the question as to the need for the particular regulation and the need for state or regionally specific regulations rather than national regulations.

Certainly, regulations that are applicable without variation across the country is one way to interpret Section 102(a) of the Act "establish a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations;..." However, there are other reasonable alternatives that would fulfill the mandate of the Act. The alternatives presented in the EIS are not those alternatives. The alternatives analyzed in the EIS are:

- No action:
- Establish general objectives or goals for the states:
- More stringent regulations:
- Less stringent regulations.

The no action alternative is a moot choice and not worthy of further discussion.

The establishment of general objectives or goals for the states is a viable alternative. However, the draft EIS dismisses the alternative out of hand largely on the assumption that "...state efforts and costs may be considerably greater..." than if the preferred OSM alternative is approved. However, comparisons of estimates of efforts and expenses by the states are not presented nor attempted in the draft EIS to prove the point that establishment of general objectives or goal for the states should not be exactly the alternatives to these. Indeed the draft EIS states, "...There would be negligible direct environmental impact under these alternatives by comparison to the proposed regulations other than those impacts discussed above (more effort and expense to the states)..."

This alternative may in that long run be more effective in fulfilling the Act and cause less effort and expense to the states than the proposed action.

The final two alternatives are viable as a consideration of alternative approaches which could have been adopted in individual instances as less stringent or more stringent than the proposed rules. The decision to adopt less stringent or more stringent regulations is not an across-the-board decision which can be subject to justification by a listing of examples. Each individual standard is unique and presents an array of alternatives peculiar to itself. To be adequate, the discussion of alternatives should present the alternatives evaluated in each individual case where significant alternative approaches were available. Incorporating the preamble to the proposed regulations does not accomplish this. The Preamble, in most cases, merely identifies the alternative which was considered and dismisses it with a simple statement. There is no consideration of the impacts of the alternatives as there should be if it is to be made part of the draft EIS.

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PART B: SUPPORTING ANALYSIS AND DATA

BI-3 Environmental Protection Agency (EPA):

The draft says that OSM requirements "will fill in gaps not now occupied by the EPA regulatory program." This section also states that the regulation under the Federal Water Pollution Control Act (FWPCA) do not cover nonpoint sources of discharge. Further, the EIS asserts that EPA's definition of waters of the United States does not meet OSM's definition of waters of the United States. The implication of this statement is that EPA's definition is too narrow.

It is our opinion, that OSM in the EIS, by making the above assertion failed to recognize ongoing programs and the developing programs of EPA. It is common knowledge to those individuals and groups concerned with water pollution that:

- Sections 201 and 208 of the FWPCA deal specifically with nonpoint sources of discharge. Further, it is a new EPA policy to include provisions to control nonpoint discharges in NPDES permits by requiring the use of best management practices;
- On August 21, EPA proposed a very broad definition of waters of the United States including waters susceptible to use in interstate commerce, intermittent streams, tributaries of navigable waters, interstate waters, all other waters which would affect or could affect interstate commerce (e.g., intrastate lakes, all

impoundments of waters of the United States otherwise defined as navigable waters, etc.) This definition is quite broad and there are few waters, if any, that are not included in it.

The essential question which the EIS raises is whether or not the waters of the United States are being protected. As shown, the waters are being protected. Further, the Safe Drinking Water Act and the Resource Recovery Act also have provisions for protecting water resources.

BI-4 and 5:

The draft next mentions the Clean Air Act provisions. It refers to EPA's policy and quotes from a portion of the preamble to the June 19, 1978 regulations which says that the Agency has decided to exclude from any "air quality impact assessment" any fugitive dust.

The quote from EPA's preamble to the PSD regulations is misleading and does not fully state EPA's position in regard to fugitive dust emission controls. The next paragraph in EPA's preamble goes on to demonstrate the legislative support for the position EPA has taken. The next to last paragraph then points out that fugitive dust is considered when determining the necessity for a PSD permit and also the applicability of BACT. The OSM quotation misleads the reader into thinking EPA ignores fugitive dust when in fact EPA regulates fugitive dust emissions to the maximum degree achievable as defined by BACT.

In view of the legislative support EPA cites for its position any requirements beyond those of EPA which OSM imposes would be invalid since they would supersede, amend and modify regulations issued under the Clean Air Act, in violation of Section 501 of SMCRA.

BII-9, Table B-4

Table caption should indicate that values represent production "per year".

BII-61 Underground Mining

The EIS is totally inadequate in its discussion and analysis of underground mining. In this regard the EIS mirrors the proposed regulations.

The following statement from the EIS summarizes OSM's perceptions of underground mining:

> "... Dependent upon the area of the nation in which underground coal mining occurs, similar adverse environmental impacts can be created by those disturbed surface areas associated with underground mining activities as was discussed in Section 3."

Section 3 is a discussion of surface mining. The potential and even probable impacts of underground mining differ in scope, magnitude, probability and significance from surface mining. Obviously, the EIS, as the proposed regulations, does not recognize this

fact. OSM has failed to consider the specific difference between the two types of mining as mandated by the Act.. The failure to distinguish the specific differences ranges from the ludricrous to the sublime. For example, the proposed regulations in Section 817.43(a) states:

> "Disturbing the smallest practicable area at any one time during the mining operation through progressive backfilling, grading, and timely revegetation; ..."

There cannot be progressive backfilling of the surface area of an underground mine during mining. If there is backfilling of the surface area of an underground mine the mine will be covered over. This is but one example of the failure of OSM to recognize the inherent differences between surface mining and underground mining. The regulations are replete with such failures. The specific failures are enumerated in the comments submitted by the industry to OSM in the form of suggested changes to the proposed regulations.

These types of inadequacies should have been addressed by the EIS-- they are not so addressed.

Failure to properly analyze the regulations in technical terms has added to the failure to adequately analyze the environmental impacts by the EIS. The entire scope of the underground mining issue --from regulation to EIS-- displays OSM's failure to fulfill the mandate of the Act by considering the distinct difference between underground and surface mining. The failure of the EIS to elucidate the difference further compounds the problem and shows concretely that the EIS is not truly an EIS in the letter or spirit of NEPA. The EIS as written is an advocacy document fraught with bias and mistakes of omission and commission.

BIII-1 Air Quality

The EIS infers that EPA does not control fugitive dust adequately. Yet, EPA requires the application of best available control technology (BACT) for fugitive dust emissions. BACT is an emission limitation based on maximum degree of reduction for each pollutant which on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, is determined to be achievable and not greater than applicable new-source performance standards.

EPA in its preamble to the PSD regulations (43 FR 26395) states (a) accurately assessing the short-term ambient impact of fugitive dust is often not possible. The Agency will continue its efforts to develop better short-term modeling techniques for fugitive dust."

Specific comments regarding the air quality analysis are as follows.

B-III-1 Paragraph 2

Statement: "The major quality impact from surface coal mining activities is an increase in total suspended particulates (primary fugitive dust) from increased topsoil and overburden handling, stockpiling, spreading activites required for reclamation, exposed areas and haul roads (U.S. Environmental Protection Agency, 1978; Axell, 1978)

Comment: This statement does not seem to be consistent with Table B8 on page BIII-4 or the statement on page A III-3 which concludes that 'minor adverse impacts on air quality will result from topsoil handling and storage requirements." We believe the EPA study sited on page BIII-1 raises an issue which OSM has taken altogether too lightly. We would encourage OSM to take a closer look at this problem. We believe OSM is being inconsistenat when it says fugitive dust from mining is a major problem but fugitive dust from reclamation is a minor problem. Since reclamation is such a significant portion of the mining cycle today.

BIII-1, 3rd. Paragraph

No emission factors for NO_x produced by blasting are given or cited. Therefore, references to NO_x should be deleted from this paragraph, unless the assertions and references of the paragraph can be proven by substantive studies. The EIS narrative makes definition statements without proof and without qualifying statements. The state-of-the-art EIS analysis normally qualifies such statements in terms of scope, magnitude, duration, probability and significance.

BIII-1 and -2, Connecting Paragraph

The figure of 1750 tons/year should be clearly labeled as a generalized approximation; the reference from which it is taken makes clear that there is great variation from mine to mine. The statement that standards may be exceeded "for some miles downwind" is far too subjective to be used in this context. In fact, it is extremely unlikely that standards would be exceeded at downwind distances exceeding one to three kilometers from the mining activity.

BIII-2, 2nd. Line

This sentence begins "If uncontrolled" and then goes on to justify regulations to control fugitive dust. However, EPA's regulations do control fugitive dust and therefore the phrase "if uncontrolled" is not applicable and any regulations resulting from the supposed consequences of those uncontrolled emissions would have no basis in fact.

BIII Paragraph 2, line 4

Deposition of dust on plants is an insignificant impact and should not merit comment in a general document such as this. We have no knowledge or any evidence to support the claim that fugitive dust significantly affects plant communities.

BIII-2, 3rd. Paragraph

The statement, "The necessary emission rates and models have been developed . . ." is an overstatement. The references cited state clearly that the emission rates are not completely general. EPA acknowledges that available models are inadequate: " . . . a widely applicable model for routinely estimating particulate concentrations attributable to fugitive sources is not available." ("Guideline on Air Quality Models," EPA-450/2-78-027, OAQPS No. 1.2-080, April 1978, page 26.) Therefore, it is inappropriate to draw general, sweeping, conclusions from available emission rates and models.

BIII-2, 4th. Paragraph

The air quality review required by OSM is not as simple as this paragraph indicates. The paragraph indicates "the necessary emission rates and models have been developed." This is an overstated, oversimplified statement. Reference USEPA 1978c is a "Survey of Fugitive Dust from Coal Mines." This survey was just that, a survey. It was not a long-term

well developed study from which emission factors were developed. For example, "sampling periods were only about one hour" (see page 1 of reference). The expected variation in emission rates for an operation during different time periods at the same mine is about 60% of the mean value. This (60%) is much lower than the variation in an operations emission rate for different mines (page 3 of reference).

Where there is obvious weakness in the emission factors, the modeling is even weaker. To again site reference WEPA 1978c (page 4)

> Current dispersion models may not be adequate because of some features usually associated with the mines rugged terrain, sources in pits or at ground level, wind speed - related emission rates, wind channeling, and poorly defined source locations. Further development may be required in this area also.

BIII, 5th. Paragraph

This paragraph states: "...Where the regulatory authority determines that the application of fugitive dust control measures listed is insufficient to achieve and maintain applicable Federal and State air quality standards, the regulatory authority may require such additional measures and practices as necessary to assure compliance with all applicable air quality standards. Control techniques are available to provide the degree of reduction in dust emissions required to comply with applicable Federal and State air quality standards (U.S. Environmental Protection Agency, 1976d; 1978b)."

This requirement is redundant since EPA under its PSD regulations controls fugitive dust by requiring BACT. The inclusion of such a provision in the regulations and addressed by the EIS is indication that OSHA has either ignored the requirement under the Act for OSM to consider the proposed action in the context of other agency programs and responsibility, or regulation is a blatant attempt to usurp EPA.

BIII-4-Table B3

Lists the impact of the regulations on air resources protection. Under the column "Effect of Impact" the word beneficial is used after four of the five activities. The word beneficial may relate only to air quality and not to the overall quality of the human environment that the activity may cause. That is to say some of the activities may cause economic problems that would result in less production and therefore not a benefit. The table seems to be of very limited value.

BIII-3 Paragraph 2, line 3

While increased topsoiling and overburden handling are mentioned here, this EIS fails to take into account the greatly increased number of acres that will be distributed by topsoil handling, stockpiling, subsoil handling, diversion ditching, etc., required by the new regs. This will have an obvious adverse effect on the fugitive dust situation. This is not emphasized strongly enough in this

BIII-5, Paragraph 2, line 2 - Topography and Geology

Delete: invariably, Add: may.

Justification: "Invariably" implies that the effects of the mining of coal on the earth's surface and overburden are always and only adverse. With the steady improvement of reclamation techniques, the effects of the mining of coal on the earth's surface and overburden are becoming less adverse and even negligible. Some changes in the earth's surface may be beneficial in that more diversified habitats are created thereby increasing wildlife populations.

Page BIII-10 & 11 (2) approximate original contour - comment:
The discussion here does not address the possibility that return to original contour in relatively flat areas i.e. the midwest will result in the disturbance of a greater surface area than was the case under the Pre-Act laws. We consider this to be an adverse impact. It also does not address the possibility that removing haul roads and plant sites and returning their locations to approximate pre-mining conditions may have adverse effects i.e. air, water and noise pollution. These activities will also have adverse affects on wildlife and socioeconomic conditions i.e. raise the cost of energy.

Part BIII-11(3) Subsidence Comment: An effective efficient environmentally sound means of preventing subsidence by utilizing backfill of mined out areas of underground coal mines in the U.S. has not been developed. As a result the subsidence issue is going to be a difficult one for OSM to handle. The EIS should acknowledge this here.

Page BIII-12 to 15 (5) Alluvial Valley Floors Comment:
This discussion is much broader than "the topic of" Alluvial Valley Floors and actually encompasses the more general subject of the "essential hydrologic functions". The statement in the first paragraph on page BIII-13 which concludes that water impoundments and stream diversions are adverse impacts on the topography is not necessarily true. If such facilities are designed such that they are ethically pleasing they will not be considered to be an adverse impact by the average citizen. Neither should such structures pose a threat to geologic materials of educational or scientific interest as is indicated in the next paragraph because other sections of the proposed regulations are designed to protect these interests. The real potential problems with impoundment and stream diversions occurs in the form of the potential air, water and noise pollution during construction and restoration of these areas; the additional areas of disturbance that will be required on

which to construct these areas the wildlife and plant life that will be affected as the result of the construction and restoration activities and the scio-economic impact of the construction, maintenance and restoration of the facilities. The comment concerning the local base-level sediment load of streams is interesting. This is the first time we have seen any environmental agency admit that removing sediment from a stream may have adverse affects but it should be easy to remedy this potential problem by not building the sediment impoundment or by building a sediment impoundment that is not 100% effective.

Page BIII-15 (6) Stockpiling of Topsoil - Comments:
This discusssion is broader than the topic of "stockpiling of topsoil" and includes the mine road design criteria. The discussion also does not address the potential adverse effect of disturbance of additional areas for topsoil storage, the potential sediment and air pollution hazard the storage stockpile poses, the possible damage to plan and animal life in the stock pile storage area and the socio-economic impact of the requirement. The road design criteria does not address potential adverse impacts of construction activity on non-conforming structures and potential impacts of restoration activity. Again, one would expect air, water and noise pollution, plant and wildlife disruptions, and socio-economic impact.

Page BIII-15(7)Cessation of Operations-Comment: This discussion adequately addresses the long term environmental effects of these regulations but it fails to discuss the short term environmental effects all of which will be adverse i.e. air, water and noise pollution, disruption of plant and animal life and adverse socio-economic impact. The adverse socio-economic impacts will be particularly serious for those mines which do not possess more than a few years of reserve life. The cost escalations necessary to provide the funding of the restoration following cessation of operations could cause short increases in utility rates.

BIII-16 (9) Permits - Comment:
The permit application regulations will have much broader impact than is recognized here. The system will require the expenditure of much more time and money, months and even years in advance of mining to complete the detailed engineering required. It will also result in longer lead times and increase the prospects for delays in the development of mine reserves as well as restricting the flexibility of the operator once the permit has been issued. The cessions, suspensions and revokation provisions also add risk and uncertainty to the operators. The prolonged and all encompassing and rigid bonding provision also deserve consideration. All of these factors combined may be viewed by environmentalist as beneficial but to the consumer they represent bad news. The short term socio-economic impacts of the permit provisions will be adverse.

BIII-17, Paragraph 3, lines 8-11:

Suggest changes as follows:

Increased soli acidity, greater stone content, reduction in available water holding capacity, reduction in content of soil organic matter and increase in soil slope have in the past been primary soil factors related to retirement of mined land from production use but due to improved reclamation techniques, the occurrence of those adverse soil conditions is becoming infrequent.

BIII-22, Paragraph 2, Lines 1-4:

"If there is a proposed change in the premining land use, the regulations requiring supervision of postmining land use planning by an appropriate professional will help determine success of the use." "Premining" should be replaced with "postmining".

BIII-23, Paragraph 1, Last Sentence:

"Restoration of the subsoil as well as the topsoil is essential if crop and forage yields of reconstructed soils are to achieve 90 percent productivity as compared to reference areas." This statement is undocumented. It also contradicts the last sentence if paragraph 3 of the same page: "Some restored areas will have higher productive capacity where high quality overburden is substituted for topsoil."

BIII-22 to 24 - Topsoil and Overburden Handling -Comments:
The discussion ignores the potential short term adverse impact topsoil handling poses to air, water, and noise pollution; plant and wildlife and socio-economics. The topsoil handling activity will obviously generate fugitive dust and as is noted on Page BIII-1 fugitive dust is a major impact on air quality. The topsoil removal, stockpiling and replacement sequence could also result in more acres of de-nuded ground being exposed to wind and water erosion at any given time which could contribute to air and water pollution. It could also result in more total acres being affected i.e. topsoil storage areas and topsoil hauling roads. More disturbed areas means more adverse consequences to plants and animals. Rehandling stock piled topsoil which has become stable will create a second round of adverse environmental consequences to the air, water and wildlife. Perhaps the major adverse environmental impact is the scio-economic handling of the topsoil handling provisions. The (RA) which is referenced on Page AIII-9 only includes the so-called "discreptionary" costs resulting from the promulgation of the proposed regs. Since topsoil handling is not addressed in the RA OSM obviously does not consider this cost to be "discretionary". Irregardless of whether or not topsoil handling costs are "discretionary" when compared with the cost of all of the issues listed on pages 49 to 51 of the RA the topsoil handling cost is several orders of magnitude greater. Therefore, it can be reasonably concluded that the short term scio-econimic impact of the topsoil handling provision will be a major and adverse impact. (The consumer will cry when he gets his electric bill)

Page B111-23, Paragraph 5, line 7

Delete: ... the regulations will minimize this compaction

Justification: The regulatory requirement for the separate handling of A and B horizons such that they can be replaced in their original sequence will effectively increase the degree of compaction. This will thereby adversely affect the root penetration and water infiltration of the soil profile.

Page B111-24, Paragraph 3, lines 4 and 5.

Suggest change as follows:

Major beneficial and adverse impacts may result from storage of topsoil for subsequent use to cover spoil.

Justification: Reduction of microbial activity due to storage of topsoil may result, thereby decreasing the fertility and potential productivity of the soil. The loss of denitrifying bacteria should effectively reduce the survival of high nitrogen requiring plants such as alfalfa and other legumes.

Page B111-24, Paragraph 4, lines 10-12

Suggest change as follows:

However, there is currently little evidence that redistributed topsoil in this condition will have an adverse effect on revegetation. Studies are needed to investigate the degree of loss of microbial activity due to topsoil storage and the effect of such a loss on revegetation.

Justification: See previous justification for lines 4 and 5, Paragraph 3, Page B111-24.

Bill - 27 Roads and Other Facilities - Comments:
This discussion should include consideration of the potential adverse affects of upgrading non-conforming structures and the short term adverse affects of removal of roads.

BIII-27 to 30 Prime Farm Land Comment:
The discussion is devoted entirely to the environmental benefits to be realized from the proposed regulations. However it is important that these benefits be placed in proper prospective. In the first place the benefits are long term and not short term. Even if all surface mining on prime farm lands were halted immediately it would result in less than one hundredth of one percent more prime farm land available for egricultural purposes. Over a 10 year period it would result in less than a tneth of one percent difference in availability. Over a 100 year period, it would result in less than a one percent difference in availability. On the other hand, many of the short term environmental affects of the prime farmland provisions will be adverse. For example the sub-shoil handling activity will create air, water and noise pollution; disrupt the plant and animal wildlife and have scio-economic impacts. Obviously the subsoil removal stockpiling and replacement activities will generate air, water and noise pollution. Construction of topsoil storage areas and haul roads to such areas will affect additional acreage which will adversely affect wildlife and plant life and increase the potential for air and water pollution. The subsoiling operation may also tend to increase tne extent of the area denuded at any one time and also the length of time it will remain denuded. This will in turn increase the potential for air and water pollution and adverse affects on plants and wildlife. The cost of handling 3 feet of subsoil will be roughly 3 times the cost of handling one foot of topsoil. As has previously been noted, the cost of topsoil handling will exceed the total cost of all of the so-called "discretionary" costs identified in the RA by several orders of magnitude. These costs must be past on to the consumer if the operator is to remain economically solvent. Therefore it can reasonably be concluded that on a regional bases there will be major adverse social economic impacts.

Page BII-29, Paragraph 3, lines 3,6-8.

Suggest change as follows:

A major impact will result.

...there will be few circumstances where it will be more desirable to substitute selected overburden materials for the A horizon in soil reconstruction but there may be numerous cases where the substitution of selected overburden materials for the B horizon will be desirable.

Justification: The areas in which selected overburden materials may be effectively substituted for the B horizon are more common than this EIS indicates. For example, prime farmland soils exist in the Midwest which have overburden materials of glacial till which are more suitable for plant growth than the overlying B horizons. Ava, Bluford, and Wynoose are three such series and their distributions in the Midwest are widespread. Characteristics of texture, cation exchange capacities, base saturation levels and pH of the unconsolidated overburden materials of these soils are more suitable for plant growth because of better root penetration, greater water holding capacity and better nutrient availability.

Part B, Section III A(4) - Water

The discussion in this section of the EIS is divided into two parts. The two parts are (1) Mining Impacts on Water Resources and (2) the impact of the proposed regulations on water. The following discussion will address each part separately.

There are primarily three objections and criticisms to the impact discussion concerning the affects of mining on water. The three objections can be listed under the genre of the following:

- References;
- Impact discussion structure;
- Differentiation of regional problems.

References

Three different categories of references are evident in this section. The catagories of references are:

1. References dated prior to and including 1975;
2. References dated since 1975;
3. Professional testimony and House of Representatives reports and debates.

References dated to and including 1975 are specific to Appalachia. Further, careful examination will reveal that the subject studies were centered on or near mining sites that were mined by a particular contour method known as conventional contour stripping. In "conventional contour stripping dozers and front-end loaders remove the overburden from the coal and cast it over the edge of the bench on the down slope." (DEIS Pg BII-32)

This method of contour stripping even by industry is generally considered environmentally unacceptable. The method is unacceptable because the cast overburden yields high levels of sediment; the steepness of slopes make reclamation difficult if not impossible; fresh rock surfaces are exposed to weathering, and possible toxic runoff; the spoil is subject to slipping and sliding because of an inherent instability; and contribute to flooding and increased peak flows in streams during rain storms. The contribution to flooding and high peak flows is generally due to a lack of vegetation cover and the steepness or length of the slopes. Indeed, the environmental damage caused by this mining method was the major impetus that led to the passage of strict mining laws in the Appalachian states. The conventional contour mining method was prohibited by law in all states except Virginia as early as 1975. (U.S. B.M.1976)

"As practiced in 1975, mountain top removal and haulback mining methods were environmentally sound. Conventional contour mining is practiced in only one state and accounts for an estimated seven (7) percent of total regional output" (U.S.BM 1976).

Thus, the impacts to water resources as presented in the EIS are based largely on an antiquated, outlawed form of contour mining. Certainly, the possibility that the present day (since 1975) mining methods could produce similar magnitudes of environmental impacts exist. However, the failure of OSM to consider the impacts of accepted and State approved mining methods to the environment in terms of the scope, magnitude, duration, and significance has seriously flawed the EIS. The severity of the impacts as presented in the EIS are largely drawn from studies and articles that are not valid for today's state-of-the-art mining methods; and have not been valid for approximately four years.

For example, on page B III-36 of the EIS in the discussion labeled (3) Regional Variations, (a) East, lines 4-6 read:

> "Typically, contour surface mining involves casting overburden over the downslope, contributing significantly to landslides and sediment movement into surface waters."

As has been shown, this statement cannot be true. Casting overburden on the downslope is not typical--it is outlawed. If casting overburden over the downslope is outlawed and not done, then typically contour surface mining cannot significantly contribute to landslides and sediment movement into surface waters.

Those streams draining mining areas that have been found to yield large concentrations of sediment since the passage of state laws probably drain land that contain a significant number of abandoned, pre-law, unreclaimed, mining sites. OSM in writing the EIS has made no attempt to distinguish between state-of-the-art mining and archaic, outlawed mining methods.

Differentiation of Regional Problems

The water impacts due to mining in the general discussion besides being based on questionable references are heavily slanted toward mining in Appalachia. Only nine (9) paragraphs of approximately eight pages of discussion are directed to mining impacts in areas other than the East.

Such concentration in one area of the country is unacceptable for a programmatic EIS that is national in scope. The brief discussions of the other areas do not adequately address the impacts to water resources of those areas due to mining. One reasonably concludes from the discussions either that the coverage in the text is a lackadaisical piece of work or that the impacts on water resources in these areas is minimal. If the work is lackadaisical then the EIS is inadequate as written. If the impacts on water resources to these areas is minimal then the question of whether or not the regulations would be of benefit to these areas is raised. Promulgation of regulations for regulations' sake is certainly not the intention of SMCRA.

Impact Discussion Structure

The impact discussion as presented in this Draft EIS is inadequate. The discussions are not only based in large part on outdated studies and articles, and slanted toward the Eastern mining situation, but also, the discussions do not indicate, explain, or relate individual impacts to the environmental systems in the regional mining areas. Impacts can be detrimental or beneficial. This document only enumerates detrimental impacts. However, even the detrimental impacts are only given a vague perspective. For example, the following are lines 17-23 of page BIII-39:

> ".... as documented in numerous reports and studies, surface mining activities may result in substantial disturbances to the hydrologic balance of both surface and ground water systems (Biesecket and George, 1966; Curtis, 1972 a, b, 1973 a, b, 1973a, 1974; Gilley and others 1977; Hardaway and others 1977 a,b; Plass 1973; Simpson 1977). Disturbances to both water quantity and quality may occur."

These lines embody all the objections we have to the EIS as written.

First examine the references:

- Biesecker and George 1966: This is an Appalachian reference. The data used to arrive at the conclusions for the study were collected prior to 1966. The mining method prevalent in Appalachia at the time of data collection is now outlawed. The reclamation requirements in Appalachia at the time of data collection were minimal. Indeed, it is from this period of time and earlier that so called "orphaned lands" came into being. Orphaned lands can be an environmental problem and SMCRA has made provisions for correcting or mitigating these problems. SMCRA intended, in our opinion, to have regulations promulgated on state-of-the art mining, not past practices. This reference cannot reasonably support the quoted statement from the EIS because it is outdated and not relevant to the mining practices of today.

Curtis, 1972 a,b, 1973a, 1974: These are Appalachian references, specifically eastern Kentucky references. Although it appears that these are four distinct studies, in reality these references represent two different aspects of a research effort reported in four different places. Further, the author had no intention of making definitive statements about the nature of impacts to the water regime of a strip mined area. The following critical review of these references illustrate the point:

Curtis 1972(a) - "Chemical Changes in Streamflow Following Surface Mining in Eastern Kentucky..."

This paper describes general trends in chemcial changes in streamflow during and following surface mining activities in Breathitt County, Kentucky.

Explanations for the water quality changes were not attempted. Iron and manganese levels exceeded the USPHS in some of the watersheds even before mining. (USPHS standards 1962.) The author himself made clear that this study could not be applied on a nationwide basis. He concludes:

> "...Because this is a case-history study, our data and interpretations cannot be applied to all surface mined areas. However, many of the findings discussed should be applicable to much of the coal producing lands throughout Appalachia."

The study, as stated, cannot be applied to all surface mined areas. However, even if the study is representative of Appalachia in terms of the magnitude of potential concentration such as increases in dissolved solids, pH and specific conductivity, then the background or baseline concentrations of water quality parameters should also be applicable--most importantly, the pre-mining manganese concentrations reported for the study that exceed the USPHS 1962 water quality standards.

The mining method and control technology used during the course of the study was conventional contour mining. This is an archaic practice that is no longer used by the industry.

Water quality changes can be expected to occur during any land disturbing activity, however, the magnitude of the changes are often directly attributable to operating practices. In this study by Curtis method mining practices were not discussed; but, in fact, mining utilized while this study was in progress is no longer practiced. It is not clear nor certain that the magnitude of the water quality changes described in the study would occur if the watershed were mined according to present practices.

Curtis 1972(b) - "Strip Mining Increases Flood Potential of Mountain Watersheds."

This paper is a discussion of the flow characteristics of streams draining six subwatersheds in Breathitt County, Kentucky. The assumption of the paper is made that the flow in unmined watersheds is representative of the flow that could be expected in the mined watersheds if they were undisturbed. However, as the author states, there was very little baseline data. The baseline data that was available was not analyzed statistically to determine if the flow for one stream could be accurately related to one of the other streams in the study. "T" tests were performed to identify a significant difference between the two streams, not to adjust streamflow for a particular set of streams.

The USGS will attempt to estimate stream flow on an ungaged stream only if a gaged stream of similar physical characteristics is nearby and the flow record of the gaged stream is substantial.

The author states: "... The study had some limitations because we did not have an adequate pretreatment period of streamflow measurement."

Curtis 1973(a) - "Effects of Strip Mining on the Hydrology of Small Mountain Watersheds in Appalachia."

This paper is a reworking of the author's 1972(a) and (b) papers as referenced in the EIS.
The paper is based on the same data and contains the same flaws as the other papers, including:

a. inadequate baseline date,
b. lack of statistical examination of the flow characteristics between the mined and unmined

This paper offers no conclusions but merely discusses preliminary results based on inconclusive and scanty data. The author acknowledges this by stating:

> "As this study continues, the preliminary results presented in this paper will either by substantiated or refuted."

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> "In watershed experiments, ... to report more than general trends with only one or two years of data would be presumptuous."

- Gilley and others 1977:
  This reference is specific for western North Dakota. The data are not representative of other Western states because those variables that contribute to erosion, such as precipitation amount, storm frequency and intensity, overburden and soils characteristics differ markedly throughout the West.

- Hardaway and others 1977 a,b:
  These two references while perhaps adequate for identifying alluvial valley occurrence in the West should hardly be used as documentation for the quoted passage. These papers are, in plain language terms, conjecture as far as mining impacts to alluvial valleys are concerned. Alluvial valleys have not been widely mined in the West. No documentation of what actually occurs when an alluvial valley in the West is mined exists. The papers other than

a reconnaissance are merely the opinions of the authors.

- Plass 1973: From the citation in the text it is not clear whether the EIS authors are referring to Plass 1975 a or b as listed in Section VI: References of the EIS. In either case, the citing is specific for Appalachia and the 1975b cite is specific for four small West Virginia watersheds.

- Simpson, 1977: This cite is specific for West Virginia and is based solely on a short tour of West Virginia surface mining operations in 1977. The report is qualitative by necessity of the working conditions of the tour, and is hardly worth citing as support for a nationwide programmatic EIS.

Finally, the quoted statements use the word "may" in describing impacts to the hydrologic balance. This is commendable since OSM obviously has recognized that these impacts do not necessarily happen as a matter of course. However, OSM has failed to present the situation as a full disclosure document should. The failure is due to a lack of perspective resulting from using only regional studies or papers that are largely qualitative in nature, outdated, or present merely opinions. Further, as was shown by the critical review of the Curtis references, the EIS authors have misinterpreted, and misconstrued, the conclusions and

conditions of the reported studies. In addition, because OSM has not attempted to accurately analyze impacts in the EIS state-of-the-art terms of magnitude, scope, duration, and significance, the document is not a reasonable environmental impact assessment upon which responsible decisions can be made. Rather the document is an advocacy document fraught with mistakes due to misunderstandings, misinterpretations, provincialism and a complete lack of awareness of state-of-the-art mining methods.

The analysis of the impact of the subject regulations on water resources is inadequate.

The inadequacy stems from an apparent lack of awareness of the EIS authors of the state-of-the-art of coal mining methods and controls throughout the country and its regions; an outdated understanding of the environmental impacts of surface mining in the different coal mining regions; failure to consider all reasonable alternatives in the writing of the regulations, and finally, failure to even properly analyze the alternative that was chosen.

The EIS in-and-of itself is technically a poor piece of work. The EIS also has ignored Congress' finding that "...the requirements of this Act is an appropriate and necessary means to minimize so far as practicable (emphasis added) the adverse social, economic, and environmental effects of ..... mining operations ....". The regulations, and by necessity the EIS, have far exceeded the first purpose of the Act as stated in Sec. 102 of the Act. "....establish a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations ...."

The summary of the preamble to the regulations state that the proposed rules are intended to strike a balance between protection of the environment and agricultural productivity and the Nation's need for coal as an essential source of energy. However, the regulations and the EIS itself is replete with absolute words such as "perserve" and "eliminate." The tone and thrust of the EIS reflects the regulations in its assertions that the impacts of the regulations are all "beneficial," for water resources. However, this assertion is not true. For example, the emphasis of the impacts of Sections 816.31 - 816.38 entitled, Roads and Associated Structures asserts that the beneficial impacts will be minor to major depending upon the coal mining region. This assertion illustrates a lack of knowledge and understanding of the mining industry. The major benefit of the regulations are supposed to occur in regions of high annual precipitation in rolling or steep terrain in the East and Midwest. However, in the East and Midwest there are three distinct categories of roads associated with mining operations. The categories are:

- Haul roads;
- Access roads;
- Limited access roads

The limited access road is infrequently used. Its use is usually limited to periodic maintenance checks of electric substations and pump stations or the like. These roads are normally not more than two wheel ruts across a field or up a slope. The environmental damage caused by such roads is minimal. However, the regulations would require elaborate construction methods for such roads. Road construction would cause environmental impacts orders of magnitude greater than is now commonly experienced. The impacts would be caused by relatively major clearing and grubbing operations, major earth moving activities, and finish with a large road surface unprotected from erosion.

Thus, the failure of OSM to more thoroughly consider regional affects of these proposed regulations or to more thoroughly steep themselves in coal mining practices has resulted in a regulation that will increase, perhaps significantly increase, adverse environmental impacts on a site by site basis. The cumulative impact regionally will be significant.

The discussion concerning roads and associated structures according to the introduction of the EIS is supposed to be a substantive discussion and analysis of the topic. Obviously, the subject narrative is not substantive.

The rest of the narratives either suffer from the same affliction as previously discussed or they have the same malady that the discussion of mining impacts on water resources have; namely, they are fraught with mistakes due to misunderstandings, misinterpretations, provincialism, and a lack of awareness of state-of-the-art mining methods.

An impact evaluation based on outdated information, misinterpretation and misunderstandings cannot begin to properly and objectively assess the affects to even a simple system, let alone the complex human environment in relation to surface coal mining.

The impact assessment does not give perspective to the impacts. The different impact narratives do make judgments of significance in terms of negligible, minor, major and beneficial. However, the narrations do not exhibit evidence of consideration of other judgment factors such as scope, duration, probability. Impact assessment is, in the final analysis, a subjective judgment, yet without consideration of the scope, duration, and probability of an impact as well as significance, the balance between environment and need, recognized by rational men and mandated by Congress, cannot be achieved.

The following comments are for specific sections supply examples of the perspectives missing in the EIS analysis.

BIII-31 - BIII-40:

There was an obvious lack of consideration of midwestern surface mining in the introductory section. The Midwest does not have the severe problems of the West or East and this fact should be pointed out. For example, it has been found that post-mining groundwater levels in the Midwest are actually increased over premine conditions and would provide new resident with more water and often of better quality than was available prior to mining (W. Herring, 1977).

The effects of past surface mining on aquatic wildlife is stressed in the introductory section; however, it is given practically no attention in the impact analysis.

Iron and manganese do not act as severe toxicants to all aquatic life as indicated. It severely limits some while not effecting others.

It should be added here that mining in the Midwest tends to dissipate peak flows and actually decrease the floor potential (W. Herring, 1977).

Page BIII-53 Section 816.42 - Water Quality Standards and Effluent Limitations - Comment:

Since these standards are virtually identical to EPA's existing standards which are presently being enforced it is hard to understand how the adoption of these regulations will be of major benefit nationally. The only appreciable difference between the EPA program and the proposed standards is the inclusion of non-point sources discharges in the central and eastern regions and this will be of only minor benefit regionally.

Page BIII-54 Section 816.46 - Sediment Ponds - Comments: The effluent standards can only be met following the sediment pond design criteria. If the pond's are kept subtantially drawn down betwen major precipotation events. Such ponds are likly to creat a local "mud flat" environment which is unsightly and which may support an unwholesome aquatic community i. e. mosquitoes.

Page BIII-62 Section 816.57 - Buffered Zone Comments: In the eastern regions most if not all states have established the buffer zone principle in their state reclamation laws and sence the small flexible operation can more easily move around such buffer zones it is techologically feasible to comply. However in the midwest and west application of the stream buffer zone principle has not been widely adopted by the states inpart because it has not been deemed necessary but also inpart because it is not technologically feasible in many cases for the large operators to comply. Since it is concluded here that the impact of buffer areas is only of minor beneficial national impact on water resources consideration should be given to ging the midwest and western states more laditude in this area.

BIII-68 Section 816.100 - Reclamation Requirements - Comments: Most states presently require concurrent or contemporaneous reclamation and in view of the topsoil and subsoil handling requirements, it is difficult to believe reclamation requirements can be accomplished as rapidly under the proposed regulations as it is presently being accomplished. Therefore the conclusion the OSM Reclamation will significatnly decrease sediment is subject to question.

BIII-79 Part 823 - Prime Farmland - Comment: For the same reasons expressed above the conclusion that the environmental impact on water resources will be beneficial is questionable at least over the short term.

(4) Subchapter K -- Environmental Protection Performance Standards
Page BIII-51 Sections 816.22, 81623, and 816.24 - Topsoil Handling-Comments: We agree that the practice of replacing the topsoil will often reduce the potential for exposing acid producing material and reduce the time frame required to establish a new soil profile and both of these factors will reduce the long term potential for water pollution. However, topsoil handling will expose additonal areas to erosion, and will result in the exposure of larger areas for longer periods. While OSM seems to recognize this fact they have determined the adverse impacts will be minor. We have trouble distinguishing between the minor impacts and the "profound" effects described on Page BIII-36. It would seem to us that each situation would produce a different result and that there may indeed be areas where topsoil handling" offers no real advantage and may infact increase the adverse hydrologic impacts.

As all present mining operations nationwide must meet NPDES requirements, the new regulations will result in only minor benefits nationally. There will not be major reductions in the amounts of sediment, acid, or iron due to these standards.

	Present NPDES		New Regs	
Suspended solids	35 avg.	70 max.	35 avg.	70 max.
Iron	3.5 avg.	7 max.	3.5 avg.	7 max
pH	6-9		6-9	
Manganese	No limit		2 avg.	4 max.

Paragraph 6 - The effect of the regulations on Midwestern operations will be minor due to the fact that groundwater recovery is very rapid.

This EIS for the reasons enumerated does not analyze in a meaningful way the environmental consequences of the proposed permanent regulations as published in the Federal Register on September 18, 1978.

Vegetation:

The following discussion presents two glaring misunderstandings in the opening narrative of this section and a criteria of the EIS and regulations based on a considered and critical review.

BIII-84:

Paragraph 1, line 1. This is an over-dramatization and infers that prior to these regulations, all vegetative productivity of the soil was destroyed.

Paragraph 2, line 10. The revegetation effort never did solely rely upon natural succession as this infers. However, natural plant succession has and always will play a very important role in revegetation. This reference to the reliance on natural succession should be ommitted.

BIII-85:

Vegetation inventory requirements and revegetation requirements are basically sound and well justified. Two problems were found, however.

The first problem concerns the requirement to graze reclaimed rangeland or pasture land. The Act requires restoration of the land to a condition capable of supporting the uses which it was capable of supporting before mining or restoration of higher or better uses of which there is reasonable likelihood. 30 CFR 816.115 goes beyond the requirement to restore capability and requires the land to be grazed prior to bond release. Need or justification for the grazing requirement was not found in the Regulations or the Introduction to the Regulations or in the Draft Environmental Statement. The Introduction to the Regulations (page 41776) simply

states, "The purpose of this proposed section is to incorporate practical livestock control essential to the establishment and growth of new seedlings. The need is supported by the work of ...." Knowing that reclamation, including the establishment and growth of new seedlings, has been widely successful without grazing, the references were checked to determine what was "essential" about grazing. The references failed to support the need for grazing. In fact, they warn of the problems that grazing may bring about. For example, the Heady reference points out that, "...protection from grazing may not be essential in all cases. Frequently, these instances have been placed in the category of exceptions; for instance Hill (1974) stated that it would be dangerous to assume similar favorable results would follow grazing of all seeded areas." Stoddart and Smith (1975, page 483) state, "Protection from grazing is imperative to permit seedlings to become well rooted and established." Aldon and Springfield (1977) state that reclaimed land should be protected from grazing until proper management practices can be implemented. Establishment of proper grazing management on reclaimed land is neither prudent nor necessary. For example, a coal mine with a 3 square mile life-of-mine affected area will likely reclaim 40 acre blocks over a 50 year life. Assuming a carrying capacity of 0.5 AUM/acre (which is high for the West) each block will be capable of supporting only two cattle per year. (A smaller mine will likely be reduced to renting a goat for several months each year to fulfill its grazing requirement.)

In view of the recommendation of Aldon and Springfield to protect from grazing until proper management practices can be established and considering other writers' cautions against early grazing, the requirement for grazing should be justified in the D.E.S. Indeed, the purpose of the requirement is not clear; and the potential risks may outweigh any possible benefits.

The purpose of the regulation should be made known and alternatives more reasonable and prudent should be considered in the Introduction to the Regulations or in the D.E.S.

The second problem concerns the requirement to use reference areas by which success of revegetation can be measured. The regulations require the cover and productivity of reclaimed land to be equal to the cover and productivity of the reference area or areas. No alternatives were considered in the Introduction to the Regulations or in the D.E.S.

A particularly onerous and unjustified portion of this Section is § 816.116 (b)(i) and (ii) which requires measurement of ground cover and productivity in the reference area each year for a period of 5 or 10 consecutive years. Measuring productivity on a reference area in the West for 10 consecutives years will obliterate the area. Further, it will preclude the private surface owner from changing land use in an unmined area for the duration of mining and at least 10 years after mining. In view of the above, it seems requisite that alternatives be considered and that the need for measurement for 10 consecutive years instead of only one or two years of the 10 year liability period be considered.

Additionally, the Act requires reclaimed land to be capable of supporting the uses which it was capable of supporting before mining. The proposed regulations do not propose to evaluate uses. Rather they evaluate only productivity and cover. The fallacy of this thinking is illustrated by the following example. Suppose unmined land produced, on the average, 4000 pounds per acre of vegetative material, 1500 pounds of which could beneficially be consumed by livestock without overgrazing and diminishing the capacity of the land. Suppose also that after mining this land produced only 3500 pounds

per acre; but the superior species composition provided 1500 pounds for livestock which was of higher forage value than the 1500 pounds grazable before mining. Thus, the revegetation effort will not be considered a success even though it fulfills the requirements of the Act. In view of the above, it is essential that OSM consider other alternatives which evaluate utility of species. This will make the regulations more in the spirit of the Act for evaluating success of revegetation.

Herein the EIS attempt close scrutiny on specific impacts on wildlife.

However, the attempt fails because the purported analysis degenerates into an advocacy document fraught statement with unqualified generalized statement conjunctive as well as exhibiting a lack of appreciation for wildlife needs and habitat.

The following examples illustrate the point:

Page B111-87:

Paragraph 1, line 2. Threatened and endangered species are fully protected under their own act. These regs offer no further protection although critical habitats may be readily identified.

Paragraph 1, line 5. Disturbances during mining will not necessarily be reduced during mining, in fact, new requirements (i.e. topsoil handling) may increase the annual effected acreage and increase disturbance in the form of noise, dust, sediment ahead of mining. However, it is true that suitable habitats have the potential of being re-established more promptly after mining.

Paragraph 2 line 6. Omit "relatively level". Some of the best wildlife habitat in the midwest is now associated with pre-law areas that are anyting but "level".

Paragraph 2, line 11. Omit "of relatively short duration". The effect of the elimination of these areas mentioned will not be reduced over time.

Page B111-92

Paragraph 1, line 5. Omit last two sentences, as they are unimportant that they do not merit comment.

Paragraph 4 on page BIII-87 theorizes generally on stress and competition because of wildlife displacement in a highly localized area, and then quickly discusses this as exemplified in certain instances in the West; regional variation of East to West is not considered.

Page BIII-93, Paragraph 1, Line 2.

" . . . practice of substituting phenotypically unadapted grasses for native species." The word "phenotypically" is used incorrectly here and should be deleted. Phenotype represents the visual appearance of an organism.

Page BIII-93:

Omit last paragraph. Endangered Species Act already provides full protection and this argument cannot be used to support the EIS.

BIII-94 - Aquatic Life:

General: While the regs do provide added protection for aquatic life, the report again fails to recognize the adverse impact increased annual disturbance to comply with topsoil handling, diversion ditching, topsoil stockpiling, etc. which may adversely affect aquatic life due to increased chance of sediment problems and habitat disruption.

BIII-99 - Human Env. (General):

The EIS premise, as a whole is that if the mining companies function to the extent of the rules and regs, then the impact is beneficial for everbody, even the mining companies (maybe not until the long run, but eventually). The EIS assumes that the impact on the rules and regs is positive for the environment. The mining companies (particularly the small ones) will

have it difficult at first, but will be able to adapt. However, the EIS does not specifically address all of th details in order to make rational judgments.

One of the flaws in the EIS is that it assumes that with proper planning, mining and reclamation, the impact will be beneficial for the environment and society. However, this concept is not carried out in the area of cultural resources and areas unsuitable for mining. Under cultural resources, mining and its associated facilities are not considered or addressed as cultural resources when in fact they are a vital link to our cultural and historical heritage. The concerns for limitation or elimination of mining from an area are based on the experiences of past mining techniques, technologies and practices. When in fact, if the rules and regs are carried out (with the implementation of up-to-date planning/mining/reclamation practices and land use management stewardship practices) most concerns of mining's negative impact upon the land should be eliminated.

In addition, areas unsuitable for mining should be limited to only those areas which are currently on a defined list. This list should spell out the specific criteria as to why an area is unsuitable for mining. The terms "areas eligible for listing" should be eliminated. Areas unsuitable for mining should be limited to only those on a specific list. In that, an area planned for mining could all of a sudden be barraged by potential "cultural" sites with no intent to preserve the cultural heritage but only to eliminate or delay mining.

The esthetic section within the EIS conceptually sounds very good. However, there are no specific carry overs into the rules and regs. Nowhere within the rules and regs does it give any details or directions as to how the wonderful generalities alluded to in the EIS will or should be carried out.

The human environment section of the EIS is difficult, if not impossible to comment on. The EIS deals in generalities that on the surface sound good, but have no substantiative backing or facts in order to justify (at least its not presented in the EIS). The statements in the EIS are so general, wholesome and good that one feels a fool to repudiate. The grossness of the EIS, however, lies not within its flowering concepts and generalities, but its lack of direction as to how these things will be specifically accomplished within and by the rules and regs.

Essentially what the EIS says, is that if you do this (rules and regs, with reference to cultural, aesthetics, noise, safety, transportation, land use, etc.) everything will be peachy-keen. This EIS appears to be applicable to just about any law and is written specifically as a justification of the rules and regs not an evaluation. While I feel that the intent of the federal legislation is good and that the overall impact of the rules and regs will be beneficial, the EIS is inadequate and does not specifically address the rules and regs of the federal legislation.

B. Human Environment

1. Cultural Resource BIII-99

Base support document appears to be the 1966 National Historic Preservation Act (N.H.P.A.) and related National Register listing. The EIS makes the following statement: by establishing more stringent criteria for protecting those resources than is required for compliance with Section 106 of the N.H.P.A."

No discussion as to why more stringent criteria is necessary has been presented.

The individual states must implement their own review and interpretation programs as well as supply burden of proof. Coordination with larger Regional and National programs is not addressed or necessarily demanded, therefore, determination of relative uniquess or unsuitability could be placed at a local level and result in overstatement of the actual cultural resource situation and it's importance. If unsuitable designation is granted, then sound, realistic management action should be demanded and carried out to support the decision. This could result in condemnation restoration and maintenance of structures or formulation of a management program to maintain and preserve the resource designated unsuitable for mining.

This section of the EIS does not limit itself to discussion of cultural resource but instead begins to address the total question of designating lands unsuitable. While related on intent and method of establishing; the cultural resource is much less encompassing than the total resources addressed in the unsuitable land designation

2. Land Use BIII-101

The term land use has often been used out of context throughout the legislative history of the New Surface Mining Act. This is especially evident when addressing the related planning progress in deriving postmining land use. The planning process sought for determining post mine land use can more accurately be described as that of a resource planning analysis. Elements as land capability, coal, water, soil, revegetation, etc. are all factors to be considered in deriving effective postmining land use. These are natural resource elements. The stressing of lands unsuitable for mining also relates to various resource elements which are identified and weighted in a management decision making process to determine need and trade off in meeting social demand pressures of total resource management.

Land use is basically a management function. The choice of uses which may have potential is dictated by the resource capability to provide or support such uses. The natural resources available in a given land unit coupled with social/economic demands provide the alternative management actions which are available at a point in time (highest-best use) or over a long range period of time (land use capability).

To adequately plan for postmining land use much time and coordination will be required. Coordination of both internal as well as external elements to the coal industry is needed.

C-2 "Re-evaluation of postmining land use plan during permit renewals" It is paramount to the land use/resource planning process for periodically re-review land use plans and commitments. Demands upon the resources are dynamic in nature and thus affect market ability, needs, and feasibilities. Technology is also dynamic and dictates change.

Flexibility for the sake of the coal industry as well as various societies involved in a long term mining impacts must be guaranteed.

3. Esthetics BIII-109:

Various examples pointed out in this discussion all lend merit to achieving positive post mining visual impacts. However, they have been presented in a subjective manner. Reference should be made to establishd and acceptable visual resource management systems as exist in Forest Service, B.L.M. and other Fed resource management agencies. Such systems approach inventory of the visual landscape as well as impact derived from a management action in a scientific and comprehendable manner. Establishing analysis criteria and ground rules for esthetics considerations would seem most important in addressing this otherwise highly subjective resource element.

BIII-117 - Transportation Systems:

The discussion of transportation systems in the EIS is inadequate.

The EIS does not discuss the impacts of roads, railroads, conveyors and large transport to the environmental system in detail. The discussion that is present in the EIS is heavily weighted to roads and the fact that on-site roads are supposedly low-quality and remain after mining has ceased; and that public roads are heavily utilized by haul trucks.

Roads on site are constructed to meet the requirements of traffic and tonnage hauled over them. We take issue with the fact that these roads are alleged to be of low quality. Simplistically, mining is a profit making venture. It is not profitable to under-design roads that must bear the wear and tear of thousands of vehicles ten miles per day. Underdesigned roads would fail and cause unnecessary delays and expense to the mining operation. Low-quality roads are simply not profitable.

Secondly, trucks do make use of public roads. However, this practice is only predominant in the Appalachian region. In the Appalachian region the public roads are cared for and built by the state or county or local municipality. In states such as West Virginia, coal companies are prohibited by law from making improvements to public roads.

The EIS discussion does not address the impacts to the other regions of the country. One can only assume that this is because as Table B 16 implies, the impacts to the rest of the country and indeed Appalachia are minor in every instance cited.

The regulations would require substantial investment of time and money by coal companies to meet their standards. The EIS and the discussion of the impacts are heavily slanted toward the Eastern mining situation and are stated to be of minor benefit nationally. The cost benefit ratio of the regulations to the impacts prevented or mitigated does not supply the environmental balance mandated by NEPA and SMCRA.

Cumulative Impacts Re: Human Resources Law

According to the EIS, protection of the general public and wildlife, in general, and of structures is to be broadly afforded under SMCRA. Safety at mines when mine personnel are involved falls under the Federal Mine Safety and Health Act administered by MSHA. Although this distinction is made clear in several instances, the EIS nevetheless attempts to justify a number of the regulations by citing the beneficial effects of the impact upon miner safety, which have no relationship to the regulations.

Safety

Auger Mining:

The discussion of auger mining on page BIII-122 focuses on the safety hazards associated with exposed auger holes from abandoned mines. However, the regulatory requirement in Section 819.11 deals with sealing active mine auger holes to prevent environmental harm, and has nothing to do with safety hazards from abandoned auger holes. In fact, MSHA regulations already require auger holes in active mines to be sealed. Further, the Act's provision for sealing auger holes only concerns environmental conditions. The beneficial impact from a safety standpoint on page BIII-124 is erroneous.

Blasting:

Although there is considerable discussion on page BIII-125 of the EIS concerning the technical and administrative requirements related to blasting, there is no reference to the impacts related to the requirement in Section 816.61(c) for training of blasters. The EIS therefore ignores how its regulations impact upon MSHA regulations concerning persons who use or handle explosives (30CFR 77.1303). Nor does OSM discuss how its blasting regulations impact from a technical basis on those of MSHA's.

Casing and Sealing:

The entire emphasis in the discussion on page BIII-126 is safety, with particular emphasis on improperly abandoned mine openings. Sections 816.13-816.15, however, deal with active mines, and the casing and sealing requirements are related primarily to environmental protection. Inasmuch as MSHA presently

requires in 30CFR 75.1711 the sealing of opening of coal mines, the beneficial safety effects cited are misleading.

Roads and Associated Structures:

The primary justification used on page BIII-127 for the construction of roads is the protection of miners which is the responsibility of MSHA. The Act's road provision, however, concern environmental protection. Secondarily, the EIS discusses public safety *if* that road is allowed to remain open after the mine closes. Since roads are required in most cases to be closed after mining, the beneficial safety impact is negligible.

Waste Handling/Dams and Impoundments:

Despite the fact the MSHA presently has extensive regulations covering waste piles and impoundments (30 CFR 77.214-77.216-5), OSM has published further regulations covering the same subject. No effort is made in the EIS to discuss the impacts between MSHA and OSM regulations. Instead, Buffalo Creek is cited as the justification for the regulations, which was also the underlying justification for the MSHA regulations.

BIII-132 - Socio-economic Impacts:

Employment increase will occur in governmental areas as much or perhaps more so than in the coal industry due to expansion of existing and formation of new regulatory agencies. An increase in bureaucracy will be a negative impact to some citizens.

Employment within the coal industry may actually decrease if small and medium size operations cannot meet the stricter environmental control requirements.

Public participation: While a greater opportunity for public participation will exist actual participation increase cannot be assured. Concerned citizens and groups are currently making their feelings known. Increased participation by an organized public sector is questionable.

The major problem with "boomtown syndrome" has not necessarily been due to lack of knowledge of future mining activities and lead time to plan, but instead securing adequate capital and governmental matching money to construct service facility expansion needs. Lack of a professional planning ability or understanding has also been a major problem.

Social and community values. Long term productivity and higher better use of the land does not necessarily equate to a positive benefit to local people especially in a economic livelyhood since coal is the economic base in areas of Appalachia. It does represent a cultural resource. Other uses may be provided in postmining land use but may not have markets to substain them adequately nor may be socially acceptable by local people.

To "promote and preserve the special life styles" in a subjective assumption. The individual land owner should have to right-of-choice on what productivity and economic benefit he may want to derive from this land and in his lifetimes. The

coal industry cannot condemn land. Transactions are handled on a willing buyer - willing seller basis. The land owner may have a greater choice and freedom now than we will have under the new regulations.

"Opportunities for hunting, fishing and other recreation" will not necessarily increase where mining is prohibited. In fact, the opportunity for substantial increase may be better offoreded by mining and returning to this designed postmining land use.

Areas of national importance are already protected from mining by other legislative commitment. Exceptions do to private ownership of surface and a minerals within these areas can now be controlled through management decision and use of condemnation and fair reinbursement for loss.

BVI-1 - References:

Many statements are made throughout the text without documentation (Section (d), pages BII-55 through BII-60). In some cases, references are cited where they are not needed (pages BIII-127, Paragraph 3, 2d Sentence: "Under Sections 816.31-816.38, 817.31-817.38, roads... must be engineered to provide for proper grade alignment and design, compaction requirements, slope limitations and embankment safety factors (Kaufman, 1977; Parker, 1975)". Some references are cited in text but not listed in bibliography (pages BIV-15 through 17, Section D-3: Fugitive Dust Controls).

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JOHN H. PAUL
VICE PRESIDENT—PUBLIC AFFAIRS

November 22, 1978

Mr. Walter Heine, Director
Office of Surface Mining Control
& Reclamation
Department of Interior
18th & C Street, N.W.
Washington, D.C. 20240

Dear Mr. Heine:

On November 1, AMAX presented a statement on the Draft Environmental Impact Statement Regulatory Program (DES) implementing Section 501(b) of the Surface Mining Control and Reclamation Act of 1977 at public hearings held in Indianapolis, Indiana. At that time we reserved the right to file additional written comments. Some questions were raised by the hearing officer and OSM staff members present concerning some of the comments which we presented. The following written comments are intended to supplement and clarify the presentation made on November 1, 1978.

1. Socio-Economic Impact not adequately addressed.

The DES concludes that the socio-economic impacts of the program will be minor. In our statement of November 1, we took issue with this conclusion for the following reasons:

Environmental legislation has already had major impacts on the coal industry. We used the Sierra Club vs. Morton lawsuit and its effect on the productive capacity of our western operation to illustrate this point in our prepared remarks. And in response to a question we referred to the impact the Coal Mine Health and Safety Act of 1969 and the Clean Air Act of 1970 have had on the development of low sulfur western coals extracted by the surface mining methods as opposed to the development of high sulfur midwestern and Appalachian coals extracted by deep mining methods. Also, although we did not mention it the decline in deep mining productivity that followed the implementation of the Health and Safety Act can be cited as further support for our argument that environmental legislation has already had major impacts on the coal industry. The Federal Surface Mining Control and Reclamation Act of 1977 is the most comprehensive environmental regulatory legislation ever directed at the coal mining industry. It is broad and detailed in coverage and its enforcement provisions go far beyond anything previously enacted. It logically follows that socio-economic impacts of these regulations will be of major proportions.

The problem with the DES is that it really does not give sufficient consideration to the socio-economic impact so there is really no basis for the conclusion that there will be only minor socio-economic impact. It should be apparent that it is not possible to predict the socio-economic impact in a precise manner but this does not support the conclusion the impact will be minor.

In addressing this concern, it would seem logical to consider the impact of the regulations on such important considerations as the energy self-sufficiency of the nation and our current rate of inflation. One would not expect the OSM program to enhance the prospects of achieving our short-term and long-term goals in either of these areas.

The statement on the bottom of page AV-1 concerning the transfer of costs associated with mitigating the adverse environmental impacts of mining from society to the coal industry suggests lack of understanding of the socio-economic impacts of this legislation. "Society" in general is not now paying the costs associated with mitigating the adverse environmental impacts of mining. These costs are being borne by that segment of society which is located in the mining regions where the impacts have occurred. There will be no "transfer" because no one to our knowledge has determined the cost which this class is paying and attempted to equate it to the costs associated with mitigating the adverse environmental impacts. While the true costs of these adverse impacts remain largely unquantified, it should be readily apparent that they have not resulted in a monetary outlay that even comes close to the outlay which will be required to meet the requirements of the proposed permanent regulatory program. The mitigating costs will eventually be transferred to the users of energy produced by the coal being mined which includes a far greater segment of society than those adversely affected or those associated with the mining industry itself.

In response to a question concerning the socio-economic impact deficiencies, we pointed out that the DES and the Draft Regulatory Analysis (DRA) not only indicate different production estimates for the year 1985 but also opposite trends in the ratio of surface to underground mining in certain regions of the country. The production trend for surface mining in the Midwest region is a case in point. The DRA projects an increasing trend while the DES projects a decreasing trend. The end result is a discrepancy between the two projections of approximately fifty-four million tons for Midwest surface mined tonnage by the year 1985. AMAX staff is inclined to believe that the figures presented in the DES are more accurate. The attached table is a comparison of the DES and the DRA 1985 production estimates.

2. Existing federal and state laws not taken into consideration.

In determining the impact of this program, the DES should evaluate the coal industry as it existed prior to August 3, 1977. As we noted in our prepared statement of November 1, while the DES acknowledges that other federal and state programs are in existence which deal with many of the problems addressed by the Regulatory Program, the list of state and federal laws it has presented is incomplete. For example, many states have laws regulating blasting, water quality and air quality and these laws were not mentioned. Further and perhaps of greater importance, the DES ignores the existence of the programs both listed and unlisted in determining the impact of the Regulatory Program. One is left free to conclude either that OSM simply erred in failing to consider the existing programs or that it has concluded that these programs are virtually ineffective. While it is no doubt true that some programs have not had significant impact because of lack of funding or insufficient enforcement "teeth", it is certainly not the rule but rather the exception. As we noted in our November 1 statement, the DES depicts the coal industry as if it were virtually unregulated when addressing environmental impacts. On the other hand, the DRA addresses the costs associated with compliance of existing environmental requirements. The DES suggests that the state reclamation laws have not been considered because it would be difficult to address the individual state laws. The DES further suggests that individual state laws will be considered on an individual basis when the state programs are under review. There are two problems with this approach. By not considering the state programs in the programmatic, DES erroneous conclusions and distortions will appear in the programmatic. Second, there is no requirement that an environmental impact statement be prepared when approving a state program, so there is no assurance that the environmental impacts of the state reclamation laws will be taken into consideration at that time.

3. Scope of the DES is not adequate.

As we stated in our formal presentation on November 1, the DES does not fully assess the environmental impact of the Proposed Permanent Regulation. The DES deals mainly with the performance standards with the major emphasis being placed on the surface mining hydrology provisions. One is left with the impression that similar considerations have been given to other performance standards and the rest of the program, but the

write up has been omitted for sake of brevity. We do not believe that this approach satisfies the NEPA requirements. There is no way for the reader to determine whether or not the scope of the impact statement is adequate unless the presentation is complete. As we noted in our formal presentation on November 1, such areas of the program as the areas designated unsuitable for mining, underground mining performance standards, and permitting regulations do not receive adequate consideration.

Following our formal presentation, the hearing officer and the panel members asked several questions concerning our prepared comments about this concern. One such question was how would one go about determining the socio-economic impact of regulations such as those contained in the area designated unsuitable for mining section. Our response was that areas which have generated a great deal of controversy in the past are obviously prime targets for implementation of this provision. A few such areas should be examined under the assumption that the areas designated unsuitable for mining section would be applied. While this technique may be used to determine local impacts, on a national basis, one must resort to projecting trends which may result from the areas designated unsuitable for mining section.

Another question which was addressed to us was if we are in a position to substantiate our contention that environmental organizations will make frequent use of the areas designated unsuitable section. As was stated at the hearing, our belief is based on our past experience with these organizations and after conducting a brief literature search, we are unable to provide you with any documentation to substantiate this concern.

Another question which was addressed to us was to attempt to distinguish the environmental impact of the hydrology regulations as they relate to underground mining versus hydrology regulations as they relate to surface mining. Upon giving this matter some consideration, we must agree that the technology for handling water quality problems associated with underground mining is very similar to that used to handle water quality problems associated with surface mining. The basic differences are perhaps more a matter of relative emphasis or economic impact than anything else. For example, surface mining affects more surface area than does underground mining but both types of mining can create sediment problems. However, the problems are usually more serious for surface mining than for deep mining. On the other hand, surface mining technology offers greater flexibility in the disposal of potentially acid producing wastes; therefore, chemical pollution presents a greater potential problem for underground mining than it does for surface mining. Since chemical treatment facilities are usually more expensive to build and operate than sediment control facilities, the cost of handling water quality problems is probably greater for underground mining than surface mining on an industry-wide basis.

Another question which was raised by the OSM officials at the hearing was in regard to our comment urging OSM to prepare sample permit applications for the typical mines they have analyzed in each region of the country in the DRA and distribute them to the state regulatory authorities, industry, and other interested parties on a regional basis so we can all obtain some idea as to the detail that will be required. The question was if we could provide OSM with a sample of what we believe should be required. In view of the time constraints imposed in preparing our comments, it is not possible for us to comply with the request prior to the November 27 deadline. We are, however, in the process of developing data and plans to comply with the proposed permitting regulations and we feel that future dialogue between the state regulatory authorities, the regional OSM offices, the coal industry, and other interested parties would be useful. Perhaps workshops on this subject can be scheduled for 1979 throughout the country.

4. The DES does not adequately address Adverse Impacts.

In our prepared statement of November 1, we expressed the opinion that the DES does not adequately discuss and evaluate the adverse impacts of the proposed regulations. Instead the statement places reliance on good intentions as if to say that since these regulations are designed to protect the environment no one would seriously expect them to have the potential for creating adverse environmental impacts. Yet if we but reflect once again upon the recent history of the effects of environmental legislation on the coal industry to date, it must be conceded that there have been examples of both macro and micro adverse environmental impacts. These impacts have, in some cases, been short-term and in other cases been long-term. Going back to the discussion we presented earlier about the impact environmental legislation has already had on the coal industry, a strong case can be made for the proposition that government regulations designed to protect the environment. For example, the Coal Mine Health and Safety Act gave surface mining a competitive advantage over underground mining while the Clean Air Act created a prime market for compliance coals which enhanced and encouraged the development of western coals. It could even be argued that the course of events that was set in motion by the environmental program resulting from these laws, which quite obviously were also promulgated with good intentions, have made it necessary to enact the surface mining law. Had Congress required both MSHA and EPA to prepare impact statements before promulgating their regulations we may have foreseen the environmental trade-offs which these programs would present. Our course of action may have been altered as a result and perhaps we would have been better prepared to deal with the development pressures that have been exerted on our western coals and our surface mining reserves throughout the country. The DES should examine both the short-term and the long-term environmental impacts and potential trade-offs more carefully: the micro-impacts (the impacts of the individual regulations) and the macro-impacts (the trends which will be created by the enforcement of the whole program); the direct impacts (those which impact solely on the mining areas and the mining industry itself) and the indirect impacts (those which impact other parts of the country and other related industries and other government programs). The examination should be objective and should not be made for the purpose of simply providing justification for decisions that have already been made or to simply provide justification for the regulatory package as it is presently constituted.

5. The alternatives section is not adequate.

As we stated in our formal comments, the DES fails to adequately and fully consider the alternatives of the proposed regulations and compare their respective environmental effects. We believe the alternative section should be reconstructed to present the alternatives as promulgation of guidelines, standards, or design criteria on a national, regional, or state basis. We believe the Act does in some instances dictate the course of action which OSM must take here, but this should not prevent OSM from presenting alternatives that may offer advantages over the course of action Congress has prescribed. Congress will be reading the impact statement also and may wish to amend the law to permit some of the alternatives to be adopted. While we would agree that it is not practical to include a detailed discussion of the alternative approaches to interpreting and drafting of each and every regulation, we do recommend that the discussion in Section IV be modified to reflect the alternative approaches that are available in each chapter or sub-part of the program, i.e., areas designated unsuitable permits, state programs, surface mine performance standards, underground mine performance standards, etc. We also recommend that detailed discussion should be given to the more controversial regulations, i.e., alluvial valley floors and prime farmlands. These discussions should include an explanation of OSM's interpretation of those sections of the Act which deal with these subjects along with other possible interpretations. As we noted in our formal comments on November 1, the approach being proposed is a composite of guidelines, standards, and design criteria to be applied for the most part on a national basis. In failing to clearly identify the alternatives, OSM has also failed to set forth its reasons for adopting the composite approach and its reasons for adopting the approach on a national rather than a regional or state basis.

6. The DES has not been prepared in a timely manner.

The final point which we made in our formal comments at the November 1 hearing was that the impact statement has not been prepared in a timely manner. The cornerstone of implementing NEPA is the timely preparation of an environmental impact statement, however, OSM in making available the DES on October 4, 1978, has failed to follow the dictates of Section 702(d) of the Surface Mining Control and Reclamation Act of 1977. In Section 102(2)(C) of the National Environmental Policy Act of 1969, there are two grounds for asserting this lack of timeliness. The first ground is that OSM has previously circulated what it termed proposed draft regulations which were not preceded by an EIS or environmental assessment of any type. In actuality the pre-proposed draft regulations constituted a "recommendation or report on proposals for major federal action" within the meaning of NEPA, thereby requiring the preparation of an EIS. The second ground is OSM's attempt to meet its NEPA duties by circulating a draft EIS "contemporaneously" (actually subsequent to) with the proposed permanent regulatory program. Section 102(2)(C) of NEPA clearly requires that the final EIS accompany the proposal through the existing agency review process. This interpretation has been upheld by the Supreme Court of the United States in Aberdeen and Rockfish vs. Scrap, 422 U.S. 289, 320 (1975) wherein the Supreme Court stated:

> "Under this sentence of the statute the time at which the agency must prepare the final 'statement' is the time at which it makes a recommendation or report on a proposal for federal action. Where an agency initiates federal action by publishing a proposal and then holding hearings on the proposal the statute would appear to require an impact statement to be included in the proposal and to be considered at the hearing."

Therefore, not only did OSM fail to include any Environmental Impact Statement at the time it proposed the regulations, July 21, or September 18, 1978, the DES released October 4, 1978 is only a draft and not a final environmental impact statement to have been made available prior to the proposal. Such action is in disregard to the mandate of NEPA to ensure consideration of the environmental impact of the contemplated action during the development of the proposal. In rulemaking as with proposing legislation, such an evaluation can only occur if the environmental impact statement is finalized prior to the advancing of the proposed regulations. OSM, however, contemplates a comment period on the DES that will coincide with the comment period on the proposed permanent program rulemaking.

As we pointed out in our November 1 statement, it is interesting to compare the preparation of the impact statement on the permanent surface mining regulations with the impact statement on the Federal Leasing Program which has taken the Department of Interior over four years to complete. It is difficult to understand how Interior can complete an impact statement that covers the regulation of coal mining on all lands private, state and federal in a six-month period when it has taken so much more time to complete the impact statement on federal leasing. It is obvious that time constraints imposed by Congress have been the major factor in determining the amount of time devoted to the preparation of this impact statement. Because of the time constraints, it has been published simultaneously with the promulgation of the permanent program and was not prepared in fact until after the permanent regulations had been written. As a result the statement is not a decision-making document as is required by NEPA at all but rather as a justification of the permanent program. In order to correct this deficiency the permanent regulations should be withdrawn and republished for public comment and review after the NEPA process has been completed. We realize that this will create further delay in the implementation of the permanent program, but we believe it is quite obvious that the time frames established by Congress are unrealistic and cannot be met by OSM, the states or the industry. We, therefore, urge the Secretary to take the initiative and inform Congress that we cannot, in spite of our best efforts, meet the time frames that they have established and request remedial legislation to allow additional time to implement the permanent program. Such legislation would, among other things, allow OSM the opportunity to complete the impact statement in a manner that is consistent with the NEPA requirements.

I would like to thank you for giving us the opportunity to comment. I have attached a copy of the formal presentation that was made in Indianapolis on November 1 for your convenience. We hope that you will give our comments serious consideration.

Very truly yours,

John H. Paul

John H. Paul

JHP/tmc
Attachment

Table 3 - Characteristics of Regional Surface Mining Simulation Models

Page 33

Region	Coal Heat Value BTU/lb.	AMAX Estimate BTU/lb.	% Error
Central & Southern Appalachia	13,000	12,500	+ 4.0
Northern Appalachia	13,000	12,000	+ 8.3
Midwest	12,400	11,000	+12.7
South-Central*	11,400	6,500-11,500	+75.4-(1.0)
Northern Rocky Mountains	9,000	9,000	0
West*	11,500	6,500-11,600	+76.9-(1.0)

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*These regions contain considerable lignite production whose heat value and mining conditions are quite different from the other coals found in these regions. It is questionable whether one should group such disparate coals together in one "region".

AMAX COAL COMPANY
A DIVISION OF AMAX INC.
105 SOUTH MERIDIAN STREET, INDIANAPOLIS, INDIANA 46225 • (317) 266-2626

STATEMENT OF

JON M. CASSADY

ASSISTANT TO VICE PRESIDENT OF PUBLIC AFFAIRS

AMAX COAL COMPANY

REPRESENTING

AMAX COAL COMPANY, A DIVISION OF AMAX INC.

ON

DRAFT ENVIRONMENTAL IMPACT STATEMENT

PERMANET REGULATORY PROGRAM

IMPLEMENTING SECTION 501(b)
OF THE SURFACE MINING CONTROL AND
RECLAMATION ACT OF 1977
AT

INDIANAPOLIS, INDIANA
NOVEMBER 1, 1978

STATEMENT OF

JON CASSADY
REPRESENTING AMAX COAL COMPANY

Gentlemen, my name is Jon Cassady, I am Assistant to the Vice President of Public Affairs of AMAX Coal Company and I am here today to present a statement on the Draft Environmental Statement on the Permanent Regulatory Program implementing §501(b) of the Surface Mining Control and Reclamation Act of 1977 on behalf of AMAX. The AMAX Coal Company is a division of AMAX, Inc. and our coal division headquarters is located here in Indianapolis. At present we operate 8 surface mining operations in the Illinois Coal Basin, 4 in Indiana, 3 in Illinois and one in western Kentucky. We also operate one deep mine in the Illinois Basin which straddles the Indiana, Illinois state border. We operate two surface mines in the Powder River Basin in northeastern Wyoming.

Although we are impressed with many aspects of the DEIS following our review we have concluded the DEIS contains serious defects which must be corrected if the final EIS is to be deemed sufficient. We have found the following major defects:

1. The draft impact statement does not adequately address the socio-economic impact of the proposed regulations and has erroneously concluded the socio-economic impact will be minor.
2. The draft impact statement does not take existing federal and state environmental laws into consideration when discussing the environmental impact of the permanent regulations and therefore in many cases erroneous conclusions have been reached.
3. The scope of the draft impact statement is inadequate to fully access the environmental impact of the regulations.
4. The draft impact statement does not adequately address the adverse impacts of the proposed regulations and fully discuss and evaluate them.
5. The draft impact statement fails to adequately and fully consider the alternatives of the proposed regulations and compare their respective environmental effects.
6. The draft impact statement has not been prepared in a timely manner.

1. SOCIO-ECONOMIC IMPACT NOT ADEQUATELY ADDRESSED

In 1974 in response to the Federal Government's project Energy Independence Program, AMAX announced plans to triple its production capabilities by 1978. At that time we were producing approximately 15 million tons of coal per year. In 1977 we produced over 28 million tons of coal. At the beginning of 1978 we were projecting a capacity to produce over 37 million tons or about 8 million tons less than we had projected in 1974. Actually we expect to produce around 31 million tons of coal this year. The remainder of the short fall can be attributed to other type problems which are not necessarily the result of environmental legislation. However, 8 million tons of the short fall in production capacity can be attributed primarily to a 2 year delay in bringing our Eagle Butte Mine into production as a result of the Sierra Club v. Morton litigation. That litigation involved the interpretation of the National Environmental Policy Act and the need for an environmental impact statement. This we believe is a very good example of the impact environmental legislation, such as NEPA, and the Federal Mining Control and Reclamation Act can have on our operations. The point here is that environmental legislation has already had a significant impact on our operations and those of other major producers as well.

The Federal Surface Mining Control and Reclamation Act of 1977 is the first major piece of environmental legislation aimed directly at the coal industry, we are convinced that the Act will have a major socio-economic impact on both the industry and those regions of the country where the economy is dependent in whole or in part upon the industry. This would include substantial sections of the country. We do not agree with the conclusion reached in the draft statement, that the regulations will have only minor socio-economic impact. In fact, the impact statement contains insufficient socio-economic information to support any conclusion. The regulatory analysis cited in the impact statement does not cure the socio-economic deficiency because it is deficient in and of its self. We will be submitting written comments which will document the deficiency of the Regulatory Analysis in greater detail.

2. EXISTING FEDERAL AND STATE LAWS NOT TAKEN INTO CONSIDERATION

A second but related major problem with the draft impact statement is that it does not really evaluate the impact of the proposed regulations on the coal industry as it exists today. The statement even acknowledges that the existing state reclamation laws were not taken into account (At page AI-3) and although the existing federal laws are identified and discussed in §BI-1 they are not taken into consideration in §BIII, the section on Analysis of Anticipated Impacts. Many of the studies which are cited in this section were completed prior to or shortly after the beginning of environmental awakening and do not present an accurate picture of a modern coal mining operation.

3. SCOPE OF THE DRAFT IMPACT STATEMENT IS NOT ADEQUATE

We do not believe the scope of the impact statement is adequate to fully access the environmental impact of the regulations. The draft statement contains only a passing reference to the process of designating lands unsuitable for mining. (See page BIII-134) It is no secret that environmental organizations in virtually every state are organizing to paper the coal regions of their states with petitions to designate areas as unsuitable for mining. These tactics will most certainly have a significant impact which may have long term beneficial affects on the immediate environment but will be accompanied by short term local adverse socio-ecomic impacts and long term regional socio-economic impacts. There is no discussion of this in the impact statement but it is a real trade off which is the inevitable result of the provision for designating land unsuitable and it needs to be addressed in the impact statement.

Another example of the inadequacy of the scope of the impact statement is the almost complete lack of consideration given to the regulations which deal with underground mining. The importance of underground mining should be obvious. In 1976, approximately 295 million tons were produced by underground coal mining. This was 44% of the nations total coal production in that year. The production projections contained in the draft impact statement project tonnage from underground mining as increasing to between 550 to 700 million tons by the year 1990. (See figure 2 page BII-7 and table BIV on page VII-9) On page BIII-74 of the draft environmental impact statement the authors quote from a House Committee report which states:

> "Underground mining is the principal source of existing acid in mineral pollution from coal mining"

In view of the pages and pages of proposed regulations which deal either directly or indirectly with the effects of coal mining on hydrology and the extent to which the topic of surface mining hydrology impacts is treated in the draft impact statement it is apparent that the impacts of underground mining on hydrology have not been adequately accessed.

Still another example of inadequacy of scope is a lack of consideration of the permitting regulations. At first glance it would not appear that the permitting regulations will have any environmental impacts. But we firmly believe that they will have. The socio-economic impacts of the permitting process will be significant, they will affect reserve acquisition, competition, development time, marketing, financing and community relations. The permitting regulations are so complex we are not even sure anyone can prepare a complete permit application and we urge OSM to prepare sample applications for the typical mines they have analysed in each region of the country in the regulatory analysis and distribute them to state regulatory authories and to industry on a regional basis so that we can all see just what these applications are suppose to look like.

4. DRAFT IMPACT STATEMENT DOES NOT ADEQUATELY ADDRESS ADVERSE IMPACTS

It is our opinion that the draft impact statement does not adequately address the adverse impacts of the proposed regulations and fully discuss and evaluate them. The fact that the Surface Mining Control and Reclamation Act was passed to protect society and the environment from the adverse impacts of coal mining does not in and of itself mean that the regulations promulgated to accomplish this objective will not have any short-term or even long term adverse environmental impacts. In fact, it is rather obvious that many of the proposed regulations can cause many adverse environmental impacts. For example, grading to approximate original contour, topsoil and subsoil handling, stream diversion construction, silt pond construction, and haul road construction can all increase fugitive dust and create potential erossion and sediment problems. It may also affect additional areas which would not otherwise have been affected, thus, affecting more plant and animal habitat. These additional human activities may also require that certain areas remain exposed and more vulnerable to environmental damage for greater periods of time. Restoration activities and reconstruction activities on non-conforming structures will reaffect areas a second time raising the potential for still further environmental damage. The secondary impacts of the larger work force to handle these mandated human activities may also have a significant impact. The draft impact statement does not recognize this in many cases and merely brushes these concerns aside in others as if they were not important. In our opinion these trade offs need to be discussed in more detail if the impact statement is to be deemed adequate.

5. THE ALTERNATIVES SECTION IS NOT ADEQUATE

Another problem with the draft impact statement is that it fails to adequately and fully consider the alternatives of the proposed regulations and compare their respective environmental effects. Instead the alternative section merely lists the four alternatives as no action, guidelines, less stringent and more stringent regulations. The no action alternative is admittedly unrealistic and the more stringent and less stringent alternatives are matters of degree and not really alternatives. The only valid alternative considered is the guidelines alternative. In addition, standards and design criteria should have been listed as alternatives. OSM also has the option of making the above alternatives applicable on a national, regional or state basis. In reality, the approach being proposed is a composite of guidelines, standards and design criteria to be applied for the most part on a national basis. In failing to clearly identify the alternatives OSM has likewise failed to set forth reasonsto support the composite approach or to explain why it has chosen to adopt the approach on a national rather than regional or state basis.

6. THE DRAFT IMPACT STATEMENT HAS NOT BEEN PREPARED IN A TIMELY MANNER

My final comment on deficiencies is perhaps the most important. This draft impact statement was put together in little more than two months. It is interesting to compare the preparation of the impact statement on the permanent surface mining regulations with the impact statement on the Federal Leasing Program which has taken the Department of Interior over four years to complete. It is difficult to understand how Interior can complete an impact statement that covers the regulation of coal mining on all lands private, state and federal in a half years time when it has taken so much time to complete the impact statement on Federal Leasing. It is obvious that time constraints imposed by Congress have been the major factor in determining the amount of time devoted to the preparation of this impact statement. Because of the time constraints it has been published simultaneously with the promulgation of the permanent program and was in fact not prepared until after the permanent regulations had been written. As the result the statement is not a decision making document as is required by NEPA at all but rather is a justification for the permanent program. In order to correct this deficiency the permanent regulations should be withdrawn and re-published for public comment and review after the NEPA process has been completed. We realize that this will create further delay in the implementation of the permanent program but we believe it has become quite obvious that the time frames established by Congress are unrealistic and cannot be met by OSM, the states or the industry. We therefore urge that the Secretary take the initiative and inform Congress that we cannot inspite of our best efforts meet the time frames that they have established and request remedial legislation to allow additional time to implement the permanent program. Such legislation would among other things allow OSM the opportunity to complete the impact statement in a manner that is consistant with the NEPA requirements.

Thank you for allowing me to make these comments on behalf of AMAX. We would like to reserve the right to file additional written comments. If you have any questions I will try to answer them.

AMERICAN NATURAL SERVICE COMPANY
MEMBER OF THE AMERICAN NATURAL RESOURCES SYSTEM
ONE WOODWARD AVENUE, DETROIT, MICHIGAN 48226

November 13, 1978

NOV 20 5 01 PM '78
DEPT. OF INTERIOR
OFFICE OF
SURFACE MINING

Office of Surface Mining
U. S. Department of the Interior
P. O. Box 7267
Benjamin Franklin Station
Washington, D. C. 20044

Attn: Mr. Walter N. Heine, Director

Dear Mr. Heine:

Attached are comments on the Draft Environmental Statement, Permanent Regulatory Program Implementing Section 501 (b) of the Surface Mining Control and Reclamation Act of 1977. We appreciate the time constraints placed on your department by Congress when SMCRA was enacted. Unfortunately, we see no justification for the Department of the Interior to overstep the requirements of the National Environmental Policy Act in attempting to meet these constraints. Specifically, we are concerned that the DES was published concurrently with the proposed regulations, thereby pre-empting its use in the decision making process. Secondly, we find that the requirement of NEPA for an analysis of alternatives has been largely overlooked. The alternative of establishing general objectives and goals for the states has been given only two pages in the DES. Finally, we find that the underlying assumption throughout the DES, that no effective state programs are in effect and all environmental improvement is dependent upon and attributable to the proposed federal regulations, renders the DES and its analysis of impacts inaccurate and deficient.

Our specific comments are attached. Due to the short period of time allowed for comment on the proposed regulations, the DES and the regulatory analysis, we would like to reserve the right to provide further comments at a later date, if necessary. In the meantime, if we can be of further assistance, please contact us.

Yours very truly,

Gary N. Weinreich

Gary N. Weinreich, P. E.
Manager - Environmental Affairs

GNW:jcs
attachment

Comments on the Draft Environmental Statement, Permanent Regulatory Program Implementing Section 501 (b) of the Surface Mining Control and Reclamation Act of 1977

Section AI

The Draft Environmental Statement (DES) should consider the effect of the detailed regulations on each state in order to determine amount of increased cost and manpower necessary to enforce the regulations. The analysis should also determine the need for federally imposed performance standards in each of the individual states. The DES should determine whether the proposed federal regulations will cause waste and poor cost-effectiveness for both capital and operating funds due to the fact that universal performance standards are administered through a blanket approach. To determine the degree of excess cost involved, a state-by-state evaluation should be undertaken and included in the DES. We recommend this examination be conducted by person(s) intimately familiar with mine operations.

In conjunction with the above, a study of incremental benefits should be conducted in each state. This study should be designed to determine the net improvement in reclamation and environmental impact over the present state program. The results of the two studies should be compared and this information presented in the DES.

Our limited study of states (North Dakota and West Virginia, for example) show that virtually no improvement in environmental impact will occur over the present state programs while operator costs increase, state agency operating costs double, and a new federal bureaucracy is created.

Finally, one of the assumptions incorporated into the analysis (page AI-4) is that the states will adopt programs consistent with the OSM's permanent program regulations. This should not be assumed, but rather the individual states should be allowed to administer their own programs as intended by Congress. If OSM administers the program with across-the-board regulations, economic waste and considerable adverse environmental impact will result. These areas are not adequately addressed in the DES.

Section AIII

Page AIII-1

It is incorrect to state that "the proposed action will have a major beneficial impact nationally in preserving agricultural productivity." Many states have reclamation laws that are as effective or more effective than the proposed federal regulations. In these states there will be no major beneficial impact and probably an adverse impact will be experienced due to unnecessary restrictions, requirements and guidelines required to comply with the federal regulations. The DES is deficient by not acknowledging this fact and should identify the states with adequate existing reclamation laws.

AIII-1

The Clean Water Act and its precedent legislation was designed to include the mining industry. Protection of the national waters was a beneficial impact of that act and the DES should explain that these regulations merely develop a duplicate level of federal bureaucracy to accomplish the same goal.

AIII-1

The national benefit to fish and wildlife is overstated; the authors again assume no state reclamation programs which is an incorrect assumption. The result is an overstatement of benefits.

AIII-2

Air quality is controlled by State and Federal regulations

governing ambient air standards, emission standards and Prevention of Significant Deterioration. Again, we question the benefit of another level of regulatory control in an area already regulated. The DES should include a thorough discussion of this question including a cost-benefit analysis.

AIII-3 through AIII-9

Each of the beneficial impacts stated herein again assumes a zero base. The DES is repeatedly inadequate in this regard and can be greatly improved by discussing incremental value in states with less than adequate regulations while pointing out that no beneficial impacts are present in states with adequate programs.

Under the heading "Socioeconomic Impacts," the DES is grossly deficient in not addressing the hundreds of small operators that will be forced to terminate their businesses due to financial and staffing difficulties resulting directly from the proposed regulations. The affect on these small businesses, and also on larger companies that are unable to operate or finance their mines due to the unique and indiscriminant powers included in the enforcement provisions, should be addressed in the DES. Numbers of miners potentially put out of work should also be addressed through the use of probable scenarios.

Section AV

Page AV-1

The increased cost of complying with the proposed regulations should be developed in detail. Administrative costs should be presented since these also are an economic impact. Information from the states should be included (such as North Dakota's assessment that the majority of their present staff will become involved in federal forms and paperwork seriously affecting their ability to attend to land reclamation). Finally, the cost to the consumer and the inflationary effects represent an irretrievable commitment of resources that is completely neglected in the DES. Simply stating that the costs of compliance with the regulations will be internalized by the coal companies is evasive and avoids the real economic impact questions. One such question that the authors of the DES have failed to analyze is the net economic impact of the proposed regulations on states which already have stringent reclamation laws.

Section AVI

AVI-1

The no-action alternative would not prolong environmental damage in states that have effective reclamation laws. This statement is incorrect.

AVI-1

The alternative of establishing objectives or goals for the states is an alternative that requires extensive development, discussion and consideration. The EIS process was designed under NEPA to be a part of the decision making process. The fact that the DES and proposed regulations have been issued concurrently preempt those requirements of NEPA and appear to render the DES nothing more than "justification" for the proposed regulations. Failure to develop the alternatives to the presently proposed regulations reinforce this contention.

Section BI

Page BI-9

The discussion of other jurisdictions is incomplete without a tabulation of state agencies and their responsibilities. The December, 1975 tabulation of state programs presented in Section BII is severely outdated.

Section BII

Page BII-1

The definition of fixed carbon in the second paragraph is incorrect. Substitute the word carbonized for burned.

Page BII-12

The section on financing mining operations should discuss the effects of present and proposed regulatory programs on the ability to finance mines, especially small operations.

Section BIII

The conclusions reached in this section are inaccurate in that the authors again fail to acknowledge the presence of any existing regulations on surface mining and reclamation. Also, throughout the regulations, the authors assume that the various environmental studies, performance standards and enforcement provisions will improve the environment when in many states and locations little benefit will be gained, excessive costs will be incurred without resultant benefit, and strict enforcement will preempt mining in otherwise suitable areas. Prime farmland, alluvial valley floors, blasting, sediment control and cessation of operations are but a few examples of areas where a set of "national" performance standards are inappropriate. The DES is deficient in not examining the alternatives and pointing out that these areas and others would be better served by individual states evaluating mine areas on a case-by-case basis within a set of federally mandated objectives and goals.

Section BIV

This section is deficient in not developing to a satisfactory degree the alternative "Establishing general objectives or goals for the states" (See previous comments). At least as much consideration should be given to this alternative as to the one adopted by DSM.

There are many beneficial impacts to the former approach and many of the adverse impacts of the DSM approach can be eliminated. This information is not developed in the DES, however, and important alternative information is unavailable for the decision-making process.

AB-82

ASSOCIATION

ASSOCIATION OF CENTRAL OKLAHOMA GOVERNMENTS
Suite 200, 4801 Classen Boulevard, (405) 848-8961, Oklahoma City, Oklahoma 73118

November 16, 1978

The Office of Surface Mining
U.S. Department of the Interior
P. O. Box 682
Benjamin Franklin Station
Washington, D.C. 20044

Dear Sir:

RE: PN#7810SMCRA-36-DEIS, Permanent Regulatory Program Implementing Section 501(b) of the Surface Mining Control and Reclamation Act of 1977

In conformance with Office of Management and Budget Circular A-95, Revised, a summary description of the above referenced Draft Environmental Impact Statement has been circulated to interested entities in the ACOG area. At this date, no suggestions for addressing other alternatives have been received by this Clearinghouse.

Staff evaluation of the proposed regulatory program's draft environmental impact statement indicates that all significantly effected elements and alternative actions have been addressed in the draft. Staff requests that the Association be provided with copy of the final environmental impact statement when it is developed.

This Draft Environmental Impact Statement has now satisfied the requirements in OMB Circular A-95 as far as this areawide clearinghouse is concerned.

Sincerely,

Zach D. Taylor
Acting Executive Director

ZDT/cr

cc: William McDowell, Chairman, ACOG Board of Directors
Don N. Strain, Director, State Clearinghouse 18J803

Chairman, William E. McDowell, Councilman, Guthrie
Vice-Chairman, Emil Fox, Commissioner, Cleveland County
Secretary - Treasurer, Cal Hobson, Mayor, Lexington
Acting Executive Director, Zach D. Taylor

CARBON FUEL COMPANY

13905 MacCorkle Ave.
CARBON, W. VA. 25037
CHESAPEAKE, W. VA. 25315
WINIFREDE, W. VA. 25214

November 22, 1978

Address reply to Chesapeake, W. Va.

NOV 24 11 07 AM '78
[illegible]
OFFICE OF
SURFACE MINING

Mr. Walter Heine
Office of Surface Mining
U. S. Department of the Interior
P. O. Box 7267
Benjamin Franklin Station
Washington, D. C. 20044

Dear Mr. Heine:

Enclosed are comments of Carbon Fuel Company on the Draft Environmental Statement and Draft Regulatory Analysis of the Permanent Regulatory Program. In addition, our personnel have participated in work groups of the Joint NCA/AMC Committee on Surface Mining Regulations.

Carbon Fuel Company hereby adopts the comments of that committee on the Proposed Rules for Permanent Regulatory Program.

Sincerely,

W. T. Bitzer Jr.

W. T. Bitzer, Jr.
Vice President, Technical Services

WTB;jr:amh

Enclosures

COMMENTS ON DRAFT ENVIRONMENTAL STATEMENT PERMANENT REGULATORY PROGRAM IMPLEMENTING SECTION 501 (B) OF THE SURFACE MINING CONTROL AND RECLAMATION ACT OF 1977

Because of the gross deficiencies in this Draft Environmental Statement, these comments will be of a topical nature with references to specific pages, rather than page by page comments. In general, EIS is a self-serving rationalization for the act and the proposed performance standards rather than an impact assessment of the permanent regulatory program as required. Specific comments are listed below:

1. Page A1-2 states "this draft EIS analyzes the degree of change between pre-act environmental impacts of coal mining and post-permanent regulatory program impacts of coal mining on the environment." OSM has entirely missed the point of what this Environmental Statement should do. Section 702(d) of the Act states that "adoption of regulations under Section 501(b) shall constitute a major action within the meaning of Section 102(2)(C) of the National Environmental Policy Action of 1969". Section 501(b) of the Act requires "regulations covering a permanent regulatory procedure" to be promulgated for (1) "surface coal mining and reclamation operations performance standards", (2) "establishing procedures and requirements for preparation, submission and approval of state programs" and (3) "development and implementation of Federal programs under the title." Using the pre-act state regulatory programs as a base and then analyzing and emphasizing the effects of only these regulations implementing the performance standards is inappropriate for this EIS for the following reasons:

   A. The interim program regulations pursuant to section 502(c) of the Act are now in place and constitute the existing regulatory scheme. These regulations were clearly excluded from an environmental statement as required by NEPA in Section 501(a) of the act. Therefore, it is inappropriate for this EIS to be an after-the-fact assessment of the impacts of the interim performance standards now in place.

   B. The implementation of the Federal Lands Program pursuant to Section 523 of the Act were also excluded from NEPA requirements by Section 702(d). However, by incorporation of the preamble statement to the proposed regulations as mentioned on Page A1-1, the use of identical performance standards and permit requirements for Federal Lands Program, and the regional approach in this environmental statement without any differentiation between Federal and non-federal lands, clearly brings the Federal Lands Program (Subchapter D) within the scope of the Draft Environmental Statement. This is contrary to the Act.

   C. With the exemption of the entire Federal Lands Program and the regulations implementing performance standards during the interim program for NEPA requirements, it would seem that the latter two aspects of 501(b) are as important, if not more important than performance standards in this EIS. Congress obviously felt that meeting the performance standards was essential irrespective of environmental costs or benefits. This interpretation is confirmed by OSM's approach in the RA where OSM only addresses the cost differences of alternatives which meet the performance standards and by Judge Flannery in his May 3rd decision which states "throughout the act Congress made it clear that the only alternative the operators had is to comply or not conduct operations". Therefore, there is no purpose served by this EIS as it now stands other than a pat on the back for Congress.

Therefore, for this EIS to be of value and fulfill the mandate of the Act it must focus on Subchapter C, alternatives to the proposed program in Subchapter C and other subchapters as they pertain to Subchapter C. Any analysis of the impact of the performance standards should use the initial program regulations as a base, and the beneficial or adverse affects of all alternative standards should be in comparison to those now in place in the interim program. It would seem that the major benefit of the permanent regulatory program would be improved enforcement of the performance standards of the Act, rather than the performance standards themselves. Unless the alternative regulatory scheme selected can show clear beneficial effects beyond that of the initial regulatory program now in place which outweigh any adverse effects of the selected program, then clearly a different alternative regulatory scheme should be selected.

2. Alternative B "Establish general objectives or goals for the states" was not given proper consideration or evaluation. In the first place it is misnamed. Performance standards specified by regulation are not general objectives or goals. They are standards which must be met. OSM has the clear option of promulgating performance standards based on

Section 515 of the Act without getting into design criteria. Major problems not addressed in the alternative analyses as writteo are as follows:

A. Section 101 of the Act states in part that "the Congress finds and declares that . . . because of the diversity in terrain, climate, biologic, chemical and other physical conditions in areas subject to mining operations, the primary governmental responsibility for developing, authorizing, issuing and enforcing regulations for surface mining and reclamation operations subject to this Act should rest to the states" (emphasis added). The principle justification on page BIV-2 for the detailed design criteria is that it will save the states money through added administrative efforts to develop their own performance standards. It would seem that Congress was willing to let them spend that money.

B. Other justifications for not using alternative B is that "This could have an adverse impact on compliance with initial performance standards because personnel directly responsible for inspections and enforcement actions are, for the most part, the people who possess the expertise to draft the specific performance standards which would be required under this alternative". This implies that these regulations are being drafted by OSM personnel without any enforcement experience in the field (easy to believe). Because the states are the only ones with enforcement experience to date, they are clearly more qualified to draft the specific performance standards and design criteria required for successful implementation of the Act rather than OSM.

C. Modern management concepts generally encourage delegating responsibility to the lowest possible level. The regulations as proposed not only make it extremely difficult but rather unattractive for a state to obtain approval of a permanent program. It places their experienced and dedicated administrators and inspectors in the compromising position of having to enforce regulations which they may see as being unnecessary or even harmful and imposed upon them for enforcement by some bureaucrat in Washington whose only exposure to a coal mine was a whirlwind tour. The states' commitment to enforcing regulations will be proportional to their perception of them as valid which will in turn be proportional to their input into them.

D. The EIS does recognize that a state developed program will not produce any direct environmental impacts since "if the state's standards are not in compliance with SCMRA they will not be approved by OSM". Therefore, there seems to be no good reason for the selected alternative.

3. The quote from the preamble of EPA's PSD regulations adopted on June 19, 1978, on page B1-4 and B1-5 is an obvious attempt to identify a gap in EPA's program which OSM can then plug. However, this is inappropriate for the following reasons:

   A. Section 515(b)(4) deals with surface stabilization and includes air pollution only as it attends to wind erosion. Therefore, any standards implementing this section should emphasize wind and water erosion control rather than air quality.

   B. Section 508(a)(9) only requires that the applicant include in his application information on compliance with laws administered by other agencies. It does not authorize OSM to assume enforcement of, or promulgate regulations pursuant to, these laws.

   C. The preamble to the June 19, 1978, PSO regulations also state that "while Congress apparently did not intend PSD to apply to stationary sources only, surface mines are stationary sources." The preamble also states that "the regulations do not exclude fugitive dust from the determination of potential emissions", and that "accurately assessing the short term ambient impact of fugitive dust is often not possible. The agency will continue its efforts to develop better short-term modeling techniques for fugitive dust." It goes on to state "the administrator would like to emphasize that EPA intends to implement the above policy and any possible technical improvements in modeling fugitive dust, and will adjust the policy as appropriate". Paragraph 52.21(k)(5) states "requirements of paragraphs (l), (n) and (p) of this section shall not apply to a major stationary source or to a major modification with respect to emissions from it which the owner or operator has shown to be fugitive dust". Clearly the remainder of Section 52.21 (PSD) applies to fugitive dust. It is a regulated pollutant by EPA under the Clean Air Act Amendments of 1977 and best available controlled technology (BACT) is required. For OSM to require additional or different monitoring and/or control of fugitive dust would be to supersede the interim EPA program developed pursuant to the Clean Air Act. This is prohibited by Section 702(a) of the Surface Mining Act.

4. The environmental impact statement fails to address the impacts of reconstructing existing facilities that do not meet the design criteria of the regulations but do meet the performance standards of the regulationa and the Act. There are sound environmental and legal reasons for considering such an alternative that does not require such reconstruction.

A. It would require the reconstruction of hundreds, if not thousands, of miles of access roads throughout Appalachia, many of which have been in use for over twenty years. Many are good stable roads but under the permanent program would have to be abandoned and new roads built that would meet the grade and other criteria of the regulations. Much additional land will have to be disturbed and this impact should be evaluated.

B. Refuse disposal areas that have been used for many years would have to be abandoned prior to obtaining a permit under the permanent program since it would be physically and economically impossible to remove several hundred vertical feet of refuse in order to remove topsoil and build required underdrains. Instead, new refuse areas meeting the design criteria would have to be started in currently undisturbed areas in order to meet the design criteria.

C. Numerous sediment control structures which are effectively operating would need to be abandoned or enlarged to meet the design criteria. This would require the disturbance of much more surface area than is now disturbed.

D. Judge Flannery's May 3rd decision enjoined enforcement of interim regulations requiring the reconstruction of pre-existing facilities if they meet the performance standards but not the design criteria.

Therefore, this is an alternative that should be addressed in the EIS.

5. The EIS does not address the economic impacts of these regulations. Page AIII-9 states that "The economic consequences of OSM's proposed regulations have been analysed in a draft regulatory analyses (RA) prepared pursuant to Executive Order 12044. Evaluation of purely economic effects of the regulations is not a proper subject for this draft EIS, but readers of this document may refer to the draft RA for analysis of these impacts." However, on page 137 of the RA it states that the RA only includes major areas where alternatives are considered. The total cost of all the regulations in the permanent program were not addressed. The EIS should include economic analyses using the same basis as the rest of the document. Reference to the RA would be appropriate only if that document is thereby incorporated into the EIS and the basis of analysis was identical.

Even though economics are supposedly not considered in the EIS, there seems to be little hesitation to use economic criteria that will help to justify the proposed regulations. On page BIV-2 OSM justified the detailed performance standards with "states would be required to employ directly or by contract technical experts and additional legal advisors to develop the necessary legislation and regulations in a short period of time." Thus, OSM is going to save the states money by doing everything for them. A more accurate statement for the EIS would be that it does not address adverse economic impacts of these regulations.

6. The socio-economic impact assessment is amazing. It states that these regulations present the opportunity for small operators to join together in cooperatives or consortia making it possible for small operators to bid on long term utility contracts. That opportunity already exists. What the EIS carefully avoids stating is the fact that the small operator cannot survive independently under these regulations. That may not have much effect in the West, but for many of the 2200 mines in Kentucky and the 1300 mines in West Virginia that is no small impact. The effects of these regulations will be to accelerate the rate of acquisitions by large corporations and a decrease in the overall number of operators in the coal industry. Also, the number of companies willing to make the initial capital investment necessary to open a mine without long term contracts could decrease seriously affecting the number of suppliers on the spot market. Many small operations, as well as small operators, will close as a result of these reguations. Many costs associated with these reguations are fixed costs (roads, permit applications, sediment control) which cannot be economically absorbed by small operations.

Public participation provisions do nothing to reduce citizen alienation from government. These provisions will provide a forum for relief for a few agrieved citizens. However, these provisions will be used primarily by special interest groups and will tend to increase the alienation between government and the general public.

7. There are several other potential impacts of these regulations which ought to be evaluated and mitigating alternatives considered. Some of these are lumped here under the general category of administrative impacts as follows:

A. An evaluation should be made of the likelihood of states being able to submit a program by the required deadlines and obtain approval by June 3, 1980, under the proposed regulations. It seems that few will be able to comply (comments from state agencies on these proposed regulations should be a good indicator) then changes in the regulations should be made to mitigate that impact.

B. Under the current scheme, there is little potential that any new mines will receive a permit in the last seven months of 1980 and possibly well into 1981. This means that there will be very little new production in 1981. At the same time, a significant portion of the approximately 5,000 mines with production of less than 100,000 tons per year will be closing because they cannot continue under the permanent program and will not have applied for a permit by August 3, 1980. This impact on coal supply could be significant nationally and severe in Central and Southern Appalachia. This potential is real, should be analyzed in this EIS, and mitigating alternatives should be considered.

C. The EIS assumes complete compliance with the regulations (page A1-4). It is unlikely that all operations that do not apply by August 3, 1980, will automatically close on February 3, 1981. Attempts at strict enforcement of regulations which are viewed by small operators as totally unreasonable and designed to put them out of business raises the potential for violence. Enforceability and the cost of enforcement should be factors evaluated in this EIS.

D. The majority of underground mines have never had to have a comprehensive environmental permit before. Therefore, most of these regulations are totally new to that segment of the industry. Almost all of the costs attributable to these regulations are front-end or one-time costs for underground mines. There have been many mine closings in the past few months in Appalachia because they were not profitable. Many more, particularly smaller operations or those with limited remaining reserves, can be expected to close rather than attempt to operate under the permanent program.

E. In order to continue operating beyond eight months after implementation of a permanent program, an operator must have a permit, or else have filed a complete application for a permit within two months after implementation of the permanent program. Because of the short period available, most operators will be applying right at the end of that two month period. Based on past history with state agencies, and considering the complex permit application requirements of the permanent program, few if any applications will be judged complete on the first submittal. With the enormous number of permits to review by the agencies and to correct by the operators, it will take several months before most permit applications are accepted as complete. Therefore, if these regulations are enforced to the letter, the coal mining industry will essentially cease operations on February 3, 1981. While that will certainly minimize impact on the natural environment, it is not the intent of the Act. The EIS should address this scenario as a potential impact of these regulations and look at mitigating measures and alternatives.

There are many other areas of the EIS that warrant comment. However, due to the limited time available and other documents to review, the above comments will have to suffice as an indication of our dissatisfaction with this entire document. Carbon Fuel Company personnel have also participated in the joint AMC/NCA Committee on Surface Mining regulations and on committees of the Kentucky and West Virginia Coal Associations. In general, and to the extent that they agree with and/or expand on these comments, we concur with the comments of these organizations.

CERTIFIED MAIL -
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November 15 , 1978

The Office of Surface Mining
U.S. Department of the Interior
P.O. Box 682
Benjamin Franklin Station
Washington, D.C. 20044

Gentlemen:

Contained herein are comments regarding the Draft Environmental Impact Statement for the Permanent Regulatory Program Implementing Section 501(b) of the Surface Mining Control and Reclamation Act of 1977. The comments are based on a reasonable and considered interpretation of the National Environmental Policy Act of 1969 (NEPA) and Title V of the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The expressed interpretation of the Acts are steeped in experience and judicial review of the former and critical examination of Title I of the latter.

It is Consol's opinion that the Draft EIS (DEIS) does not adequately analyze the environmental consequences of the proposed permanent regulations to the human environment.

Additionally, OSM has failed to meet the requirements of NEPA in a timely manner. The U.S. Supreme Court has indicated that NEPA requires that a final EIS accompany any recommendation or report on proposals for a major federal action.* Timeliness is not an incidental requirement. Substantial prejudice results to interested parties when they are not given the benefit of a final environmental impact statement from which to make informed comment on the proposed rules. The procedures employed by OSM in attempting NEPA compliance do not provide a reasoned, logical approach and indicate the impact statement is not being accorded its proper role in OSM decision-making.

NEPA has resulted in unprecendented investments of effort and funds in the collection of environmental information. These investments are required to provide "detailed statements" of impacts, alternatives, and other matters related to "major federal actions significantly affecting the quality of the human environment."

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*Aberdeen & Rockfish R. Co. v. SCRAP,
422 U.S. 289 (1975)

The impacts to the quality of the human environment are only rarely confined to the perspectives of individual disciplines. More often especially when actions affect complex natural and social systems, an effect which is initially identified by one discipline may have far more important secondary consequences in the area of another discipline's understanding, and it may even have tertiary consequences in some other area. For this reason, it is essential that environmental impact assessment be conducted by truly interdisciplinary teams, as called for in Section 102(A) of NEPA, rather than by individual specialists working in isolation or by so-called "check-lists" of discrete environmental variables. (Andrews et al 1977).

In a 1971 decision against the Corps of Engineers, the court held that NEPA was "at the very least ... an environmental full disclosure law." The EIS in the courts' view should "at a minimum contain ... information ... about all known possible environmental consequences of proposed agency action."* By this decision, the court required EIS's to be comprehensive documents rather than brief statements, and it asserted the right of the courts to insure their "adequacy" in this regard. (Andrews et al 1977).

Secondly, the courts have required impact statements to discuss all reasonable alternatives to a proposed action, including alternatives outside the jurisdiction of the initiating agency. Finally, judicial interpretation has required that an agency demonstrate not only full disclosure of impacts, but also a reasonable "balancing" of environmental and other considerations in its choice of a proposed action over alternatives. (Andrews et al 1977).

In order to fulfill the mandate of NEPA and the interpretations of the courts, EIS's must be more than the product of analyses by individual disciplines of discrete environmental variables. The EIS must be a document that examines discrete variables in terms of the complete system being affected by the proposed action. The relationships within and between the various components of the natural environment and the man produced environment must be included in an environmental impact assessment, if the assessment is to be a predictor and guide for future change. Judgments and opinions as to the nature of an environmental change must be relative to the function and structure of the affected environmental system. Each change or impact should be judged according to the scope, duration, probability and significance of the impact to the entire system. Further, the cumulative affect of individual variables to the system should be evaluated.

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*Environmental Defense Fund vs Corps of Engineers, 325 F. Supp. 728 and 759 (EIR at 20141).

Congress in passing SMCRA found among other things that many surface mining operations result in significant environmental damage. Congress decided that the Act was necessary to prevent or mitigate adverse environmental effects of present and future surface coal mining operations. However, Congress also realized the importance of coal mining to the well-being of the nation by stating in Section 102, of the Act that one purpose of the Act was to assure that the coal supply essential to the nation's energy requirements, and to its economic and social well-being be provided and strike a balance between protection of the environment and agricultural productivity, and the nation's need for coal as an essential source of energy.

The promulgation of regulations to administer the Act was mandated by Congress. The controversy about the proposed regulations centers around the questions of the efficiency, effectiveness, and equitability of regulations in terms of Title I of the Act, and the affect of regulations to the human environment. The proper vehicle to present the rationale and to judge the supposed effectiveness of the regulations is the EIS.

The review of the subject DEIS was approached with the following questions as a guide to form an opinion of the effectiveness, efficiency, and equitability of the regulations as explained and presented by the DEIS:

- Is the DEIS a comprehensive document rather than a brief statement?
- Does the DEIS discuss all reasonable alternatives to the proposed actions?
- Does the DEIS exhibit a reasonable balancing of environmental and other considerations in its choice of proposed action over alternatives?
- Does the DEIS adhere to the mandates of Title I and Title V of SMCRA?

The following discussions concerning Water Resources, Transportation Systems, Alternatives and Underground Mining illustrate our objections to the DEIS:

Water Resources

Part B, Section IIIA(4) - Water

The discussion in this section of the DEIS is divided into two parts. The two parts are (1) mining impacts on Water Resources and (2) the impact of the proposed regulations on water. The following discussion will address each part separately.

There are primarily three objections and criticisms to the impact discussion concerning the affects of mining on water. The three objections can be listed under the genre of the following:

- References;
- Impact discussion structure;
- Differentiation of regional problems.

References

Three different categories of references are evident in this section. The categories of references are:

1. References dated prior to and including 1975;
2. References dated since 1975;
3. Professional testimony and House of Representatives reports and debates.

References dated to and including 1975 are specific to Appalachia. Further, careful examination will reveal that the subject studies were centered on or near mining sites that were mined by a particular contour method known as conventional contour stripping. In "conventional contour stripping dozers and front-end loaders remove the overburden from the coal and cast it over the edge of the bench on the down slope." (DEIS Pg BII-32). The environmental damage caused by this mining method was the major impetus that led to the passage of strict mining laws in the Appalachian states. The conventional contour mining method was prohibited by law in all states except Virginia as early as 1975. (U.S. B.M. 1976).

"As practiced in 1975, mountain top removal and haulback mining methods were environmentally sound. Conventional contour mining is practiced in only one state and accounts for an estimated seven (7) percent of total regional output." (U.S. B.M. 1976).

Thus, the impacts to water resources as presented in the DEIS are based largely on a form of contour mining not generally practiced. Certainly, the possibility that the present day (since 1975) mining methods could produce similar magnitudes of environmental impacts exist. However, the failure of OSM to consider the impacts of accepted and State approved mining methods to the environment in terms of the scope, magnitude, duration, and significance has seriously flawed the DEIS. The severity of the impacts as presented in the DEIS are largely drawn from studies and articles that are not valid for today's state-of-the-art mining methods; and have not been valid for approximately four years.

For example, on page B III-36 of the DEIS in the discussion labeled (3) Regional Variations, (a) East, lines 4-6 read:

> "Typically, contour surface mining involves casting overburden over the downslope, contributing significantly to landslides and sediment movement into surface waters."

As has been shown, this statement cannot be true. Casting overburden on the downslope is not typical. If casting overburden over the downslope is not done, then typically contour surface mining cannot significantly contribute to landslides and sediment movement into surface waters.

Those streams draining mining areas that have been found to yield large concentrations of sediment since the passage of state laws probably drain land that contains a significant number of abandoned, pre-law, unreclaimed, mining sites. OSM in writing the DEIS has made no attempt to distinguish between state-of-the-art mining and largely archaic, mining methods.

Differentiation of Regional Problems

The water impacts due to mining in the general discussion, besides being based on questionable references, are heavily slanted toward mining in Appalachia. Only nine (9) paragraphs of approximately eight pages of discussion are directed to mining impacts in areas other than the East.

Such concentration in one area of the country is unacceptable for a programmatic EIS that is national in scope. The brief discussions of the other areas of the country do not adequately address the impacts to water resources of those areas due to mining. If the impacts on water resources to these areas is minimal then the question of whether or not the regulations would be of benefit to these areas is raised. Promulgation of regulations for regulations' sake is certainly not the intention of SMCRA.

Impact Discussion Structure

Impacts can be detrimental or beneficial. This document only enumerates detrimental impacts. However, even the detrimental impacts are only given a vague perspective. For example, the following are lines 17-23 of page B III-39:

> ".... as documented in numerous reports and studies, surface mining activities may result in substantial disturbances to the hydrologic balance of both surface and ground water systems (Biesecket and George, 1966; Curtis, 1972 a, b, 1973 a, b, 1973 a, 1974; Gilley and others 1977; Hardaway and others 1977 a, b; Plass 1973; Simpson 1977). Disturbances to both water quantity and quality may occur."

These lines embody all the objections we have to the DEIS as written.

First examine the references:

- Biesecker and George 1966: This is an Appalachian reference. The data used to arrive at the conclusions for the study were collected prior to 1966. The mining method prevalent in Appalachia at the time of data collection is no longer practiced. The reclamation requirements in Appalachia at the time of data collection were minimal. Indeed, it is from this period of time and earlier that so-called "orphaned lands" came into being. Orphaned lands can be an environmental problem and SMCRA has made provisions for correcting or mitigating these problems. SMCRA intended, in our opinion, to have regulations promulgated on state-of-the-art mining, not past practices. This reference cannot reasonably support the quoted statement from the DEIS because it is outdated and not relevant to the mining practices of today.

Curtis, 1972 a, b, 1973a, 1974: These are Appalachian references, specifically eastern Kentucky references. Although it appears that these are four distinct studies, in reality these references represent two different aspects of a research effort reported in four different places. Further, the author had no intention of making definitive statements about the nature of impacts to the water regime of a strip mined area. The following critical review of these references illustrate the point:

Curtis 1972(a) - "Chemical Changes in Streamflow Following Surface Mining in Eastern Kentucky ..."

This paper describes general trends in chemical changes in streamflow during and following surface mining activities in Breathitt County, Kentucky.

Explanations for the water quality changes were not attempted. Iron and manganese levels exceeded the USPHS standards in some of the watersheds even before mining. (USPHS standards 1962.) The author himself made clear that this study could not be applied on a nationwide basis. He concludes:

> "... Because this is a case-history study, our data and interpretations cannot be applied to all surface mined areas. However, many of the findings discussed should be applicable to much of the coal producing lands throughout Appalachia."

The study, as stated, cannot be applied to all surface mined areas. However, even if the study is representative of Appalachia in terms of the magnitude of potential concentration such as increases in dissolved solids, pH and specific conductivity, then the background or baseline concentrations of water quality parameters should also be applicable--most importantly, the pre-mining manganese concentrations reported for the study that exceed the USPHS 1962 water quality standards.

Water quality changes can be expected to occur during any land disturbing activity, however, the magnitude of the changes are often directly attributable to operating practices. In this study by Curtis, mining practices were not discussed; but, in fact, mining utilized while this study was in progress is no longer practiced. It is not clear nor certain that the magnitude of the water quality changes described in the study would occur if the watershed were mined according to present practices.

Curtis 1972(b) - "Strip Mining Increases Flood Potential of Mountain Watersheds."

This paper is a discussion of the flow characteristics of streams draining six subwatersheds in Breathitt County, Kentucky. The assumption of the paper is made that the flow in unmined watersheds is representative of the flow that could be expected in the mined watersheds if they were undisturbed. However, as the author states, there was very little baseline data. The baseline data that was available was not analyzed statistically to determine if the flow for one stream could be accurately related to one of the other streams in the study. "T" tests were performed to identify a significant difference between the two streams, not to adjust streamflow for a particular set of streams.

The USGS will attempt to estimate stream flow on an ungaged stream only if a gaged stream of similar physical characteristics is nearby and the flow record of the gaged stream is substantial.

The author states: "... The study had some limitations because we did not have an adequate pretreatment period of streamflow measurement."

Curtis 1973(a) - "Effects of Strip Mining on the Hydrology of Small Mountain Watersheds in Appalachia."

This paper is a reworking of the author's 1972(a) and (b) papers as referenced in the DEIS.

The paper is based on the same data and contains the same flaws as the other papers, including:

a. inadequate baseline data,

b. lack of statistical examination of the flow characteristics between the mined and unmined streams used as comparisons.

This paper offers no conclusions but merely discusses preliminary results based on inconclusive and scanty data.

The author acknowledges this by stating:

> "As this study continues, the preliminary results presented in this paper will either be substantiated or refuted."

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> "In watershed experiments, ... to report more than general trends with only one or two years of data would be presumptuous."

- Gilley and others 1977:

  This reference is specific for western North Dakota. The data are not representative of other Western states because those variables that contribute to erosion, such as precipitation amount, storm frequency and intensity, overburden and soils characteristics, differ markedly throughout the West.

- Hardaway and others 1977, a,b:

  These papers are, in plain language terms, conjecture as far as mining impacts to alluvial valleys are concerned. Alluvial valleys have not been widely mined in the West. Little documentation of what actually occurs when an alluvial valley in the West is mined exists. The papers other than a reconnaissance are merely the opinions of the authors.

- Plass 1973: From the citation in the text it is not clear whether the DEIS authors are referring to Plass 1975(a) or (b) as listed in Section VI: References of the EIS. In either case, the citing is specific for Appalachia and the 1975 cite is specific for four small West Virginia watersheds.

- Simpson, 1977: This cite is specific for West Virginia and is based solely on a short tour of West Virginia surface mining operations in 1977. The report is qualitative by necessity of the working conditions of the tour, and is hardly worth citing as support for a nationwide programmatic EIS.

Finally, the quoted statements use the word "may" in describing impacts to the hydrologic balance. This is commendable since OSM obviously has recognized that these impacts do not nessarily happen as a matter of course. However, OSM has failed to present the situation as a full disclosure document should. The failure is due to a lack of perspective resulting from using only regional studies or papers that are largely qualitative in nature, outdated, or present merely opinions. Further, as was shown by the critical review of the Curtis references, the DEIS authors have

misinterpreted, and misconstrued, the conclusions and conditions of the reported studies. In addition, because OSM has not attempted to accurately analyze impacts in the EIS state-of-the-art terms of magnitude, scope, duration, and significance, the document is not a reasonable environmental impact assessment upon which responsible decisions can be made.

The analysis of the impact of the subject regulations on water resources is inadequate.

The inadequacy stems from an apparent lack of awareness of the DEIS authors of the state-of-the-art of coal mining methods and controls throughout the country and its regions; an outdated understanding of the environmental impacts of surface mining in the different coal mining regions; failure to consider all reasonable alternatives in the writing of the regulations; and finally; failure to even properly analyze the alternative that was chosen.

The DEIS has ignored Congress' finding that "... the requirements of this Act is an appropriate and necessary means to minimize so far as practicable (emphasis added) the adverse social, economic, and environmental effects of ... mining operations ...". The regulations, and by necessity the DEIS, have far exceeded the first purpose of the Act as stated in Sec. 102 of the Act. ".... establish a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations ..."

The summary of the preamble to the regulations state that the proposed rules are intended to strike a balance between protection of the environment and agricultural productivity and the Nation's need for coal as an essential source of energy. However, the regulations and the DEIS itself is replete with absolute words such as "preserve" and "eliminate." The tone and thrust of the DEIS reflects the regulations in its assertions that the impacts of the regulations are all "beneficial," for water resources. However, this assertion is not true. For example, the emphasis of the impacts of Sections 816.31 - 816.38 entitled, Roads and Associated Structures asserts that the beneficial impacts will be minor to major depending upon the coal mining region. This assertion illustrates a lack of knowledge and understanding of the mining industry. The major benefit of the regulations are supposed to occur in regions of high annual precipitation in rolling or steep terrain in the East and

Midwest. However, in the East and Midwest there are three distinct categories of roads associated with mining operations. The categories are:

- Haul roads;
- Access roads;
- Limited access roads.

The limited access road is infrequently used. Its use is usually limited to periodic maintenance checks of electric substations and pump stations or the like. These roads are normally not more than two wheel tracks across a field or up a slope. The environmental damage caused by such roads is minimal. However, the regulations would require elaborate construction methods for such roads. Road construction would cause environmental impacts orders of magnitude greater than is now commonly experienced. The impacts would be caused by relatively major clearing and grubbing operations, major earth moving activities, and finish with a large road surface unprotected from erosion.

Thus, the failure of OSM to more thoroughly consider regional effects of these proposed regulations or to more thoroughly steep themselves in coal mining practices has resulted in a regulation that will increase, perhaps significantly increase, adverse environmental impacts on a site by site basis. The cumulative impact regionally will be significant.

The discussion concerning roads and associated structures according to the introduction of the DEIS is supposed to be a substantive discussion and analysis of the topic. The subject narrative is not substantive.

An impact evaluation based on outdated information, misinterpretation and misunderstandings cannot begin to properly and objectively assess the affects to even a simple system, let alone the complex human environment of surface coal mining.

The impact assessment does not give perspective to the impacts. The different impact narratives do make judgments

of significance in terms of negligible, minor, major, and beneficial. However, the narratives do not exhibit evidence of consideration of other judgment factors such as scope, duration, and probability. Impact assessment is, in the final analysis, a subjective judgment, yet without consideration of the scope, duration, and probability of an impact as well as significance, the balance between environment and need, recognized by rational men and mandated by Congress, cannot be achieved.

Transportation Systems

The discussion of transportation systems in the DEIS is inadequate.

The DEIS does not discuss the impacts of roads, railroads, conveyors and barge transport to the environmental system in detail. The discussion in the DEIS is heavily weighted to roads and the fact that on-site roads are supposedly low quality and remain after mining has ceased; and that public roads are heavily utilized by haul trucks.

Roads on-site are constructed to meet the requirements of traffic and tonnage hauled over them. We take issue with the fact that these roads are alleged to be of low quality. It is not profitable to underdesign roads that must bear the wear and tear of thousands of vehicle ton miles per day. Underdesigned roads would fail and cause unnecessary delays and expense to the mining operation.

Secondly, trucks do make use of public roads. However, this practice is only predominant in the Appalachian region. In the Appalachian region the public roads are cared for and built by the state or county or local municipality. In states such as West Virginia, coal companies are prohibited by law from making improvements to public roads.

The DEIS discussion does not address the impacts to the other regions of the country. One can only assume that this is because, as Table B 16 implies, the impacts to the rest of the country and indeed Appalachia are minor in every instance cited.

The regulations would require substantial investment of time and money by coal companies to meet their standards. The DEIS and the discussion of the impacts are heavily slanted toward the Eastern mining situation and are stated to be of minor benefit nationally. The cost benefit ratio of the regulations to the impacts prevented or mitigated does not supply the environmental balance mandated by NEPA and SMCRA.

Alternatives

The courts have required impact statements to discuss all reasonable alternatives to a proposed action, including alternatives outside the jurisdiction of the initiating agency. Judicial interpretation has required that an agency also demonstrate a reasonable "balancing" of environmental and other considerations in its choice of a proposed action over alternatives. Indeed SMCRA itself requires a "balancing" "... between protection of the environment ... and the Nation's need for coal as an essential source of energy ..." (Section 102(f)).

In our opinion, the subject DEIS does not discuss all reasonable alternatives, nor does the DEIS demonstrate a reasonable balancing of environmental and other considerations over alternatives.

The alternatives analyzed in the DEIS are only the residual set of alternatives considered by OSM before writing the DEIS. The first set of alternatives were the options that OSM must have considered regarding the approach to the DEIS to analyze the degree of change between pre-Act environmental impacts of coal mining and post-permanent regulatory program impacts of coal mining on the environment. The DEIS rejects the alternative of analyzing conditions in the states having coal reserves. Yet, OSM has obviously attempted to analyze state laws and regulations in terms of their effectiveness in controlling adverse environmental impacts. Lines 30-33 of page AI-3 of the EIS state:

> "... nor should the proposed regulations be considered from the point of view that they represent previously unheard of or untried requirements. In many cases, precedent will be found in previously existing state requirements."

If OSM has seen fit to incorporate specific requirements from specific state statutes and regulations then it is a reasonable expectation that OSM should have investigated and considered the reasons why particular state mandates are or are not universally incorporated in each state that regulates coal mining activities. If the environmental problems associated with surface mining are the same for each state or region then the incorporation of specific state requirements into a nationwide federal program is justified. However, if the environmental problems associated with surface mining are not the same for each state or region, and further, if the degree of the problems differ from state to state or region to region, then the nation wide regulations discussed in the DEIS as the preferred alternatives are a miscarriage of the responsibility and authority conferred by Congress to OSM. The regulations and the DEIS do not make provisions for controlling specific problems in specific regions of the country. For example, this is obvious when the Table BII and the accompanying narrations are examined.

Again and again the narratives state that while certain sections of the proposed regulations will have major effects in one region, the effects in the other regions will be minor or negligible. The preponderence of such conclusions in the DEIS analysis naturally raises the question as to the need for the particular regulation and the need for state or regionally specific regulations rather than national regulations.

Certainly, regulations that are applicable without variation across the country is one way to interpret Section 102(a) of the Act "establish a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations; ..." However, there are other reasonable alternatives that would fulfill the mandate of the Act. The alternatives presented in the DEIS are not those alternatives. The alternatives analyzed in the DEIS are:

- No action;
- Establish general objectives or goals for the states;
- More stringent regulations;
- Less stringent regulations.

The no action alternative is a moot choice and not worthy of further discussion.

The establishment of general objectives or goals for the states is a viable alternative. However, the DEIS dismisses the alternative out of hand largely on the assumption that "... state efforts and costs may be considerably greater ..." than if the preferred OSM alternative is approved. However, comparisons of estimates of efforts and expenses by the states are not presented nor attempted in the DEIS to prove the point that establishment of general objectives or goals, for the states should not be exactly the alternatives to choose. Indeed, the DEIS states, "...There would be negligible direct environmental impact under these alternatives by comparison to the proposed regulations other than those impacts discussed above (more effort and expense to the states)..."

This alternative may in the long run be more effective in fulfilling the mandates of the Act and cause less effort and expense to the states than the proposed action.

The final two alternatives of more stringent and less stringent regulations are not alternatives. They are merely different degrees

of the proposed action, and do not represent truly alternate means in which to administer the Act.

Thus, of the four alternatives discussed, only two are different from the proposed action. One of those two (no action), is moot and the second is dismissed by the DEIS without evidence of substantive analysis that would reasonably eliminate the alternative from implementation.

Other alternatives that should have been considered but were not considered are:

- Regulations written specifically for regions. Regions could be delineated by such things as physiographic province, vegetation, precipitation or coal quality.
- Regulations written that set goals for other Federal agencies now regulating surface mining that would effectively administer the Act without establishing national standards of design and limitations.

Underground Mining

The DEIS is inadequate in its discussion and analysis of underground mining. In this regard the DEIS mirrors the proposed regulations.

The following statement from the DEIS summarizes OSM's perceptions of underground mining:

> "... Dependent upon the area of the nation in which underground coal mining occurs, similar adverse environmental impacts can be created by those disturbed surface areas associated with underground mining activities as was discussed in Section 3."

Section 3 is a discussion of surface mining. The potential and even probable impacts of underground mining differ in scope, magnitude, probability and significance from surface mining. Obviously, the DEIS, as the proposed regulations, does not recognize this fact. OSM has failed to consider the specific difference between the two types of mining as mandated by the Act. For example, the proposed regulations in Section 817.43(a) states:

> "Disturbing the smallest practicable area at any one time during the mining operation through progressive backfilling, grading, and timely revegetation; ..."

There cannot be progressive backfilling of the surface area of an underground mine during mining. If there is backfilling of the surface area of an underground mine the mine will be covered over. This is but one example of the failure of OSM to recognize the inherent differences between surface mining and underground mining. The regulations are replete with such failures.

These types of inadequacies should have been addressed by the DEIS--they are not so addressed.

Failure to properly analyze the regulations in technical terms has added to the failure to adequately analyze the environmental impacts by the DEIS. The entire scope of the underground mining issue --from regulation to DEIS-- displays OSM's failure to fulfill the mandate of the Act by considering the distinct difference between underground and surface mining. The failure of the DEIS to elucidate the difference further compounds the problem and shows concretely that the DEIS is not truly an EIS in the letter or spirit of NEPA. The DEIS as written is an advocacy document fraught with bias and mistakes of omission and commission.

References

Andrews, Richard W, et al. - Substantive Guidance for Environmental Impact Assessment. A Report to the Institute of Ecology. 1977.

U.S. Bureau of Mines. Evaluation of current Surface Coal Mining Overburden Handling Techniques and Reclamation Practices, Phase III: Eastern U.S. USBM Contract Report - S0144081. July 22, 1976.

Consol appreciates the opportunity to comment on the subject DEIS. If OSM has any questions concerning our comments please advise us.

Sincerely,

Peter B. Briggs
Manager-Environmental Reports

PBB:jk

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S. F. SHERWOOD VICE PRESIDENT

November 20, 1978

Office of Surface Mining
U.S. Department of the Interior
P.O. Box 682 Benjamin Franklin Station
Washington, D. C. 20044

Gentlemen:

Re: Comments to Draft Environmental Impact Statement on Permanent Regulatory Program Implementing Section 501(b) of the Surface Mining Control and Reclamation Act of 1977

In accordance with the U.S. Department of the Interior Office of Surface Mining ("OSM") notice of availability published in the Federal Register of October 4, 1978, 43 Fed. Reg. 45886, El Paso Coal Company ("Coal Company") hereby submits its comments to the captioned draft environmental impact statement ("DES").

Because of the short time frame within which to review and develop comments on both this DES and OSM's proposed surface coal mining and reclamation operations permanent regulatory program ("permanent program"), El Paso has participated in the Joint NCA/AMC Committee on Surface Mining Regulations ("Joint Committee") development of comments on the DES. Since El Paso supports the written comments the Joint Committee is submitting, El Paso feels that its written comments have been submitted primarily through the Joint Committee.

Although the Joint Committee's comments represent El Paso's major comment undertaking, El Paso also feels it is necessary to include several general, but important, comments. Except for several passages, the DES fails to address the impacts that the proposed permanent program will have on underground mining. Perhaps this lack of treatment indicates very little impact on the environment stemming from underground operations, in which case most of the proposed underground regulations

are not needed. This failure to discuss the impacts from underground mining seems to be in contravention of Section 516(a) of the Surface Mining Control and Reclamation Act of 1977 which requires that in promulgating any rules and regulations affecting underground operations, "the Secretary shall consider the distinct difference between surface coal mining and underground mining." Since the economic impact on underground mining operators could be more significant than on surface mining operators, the EIS must address in detail the impacts from, as well as the alternative means of, regulating underground mining operations.

The DES also glosses over the potential impacts on the human environment, an integral part of any adequate EIS. The DES fails to discuss the adverse socioeconomic impacts stemming from the potential closure of numerous mines as a result of the proposed regulations. For instance, the impacts from the air program provisions are characterized as minimal. This characterization probably occurs because the DES does not discuss the potential socioeconomic impacts which would result from the closing or banning of mines in certain areas, especially in the West, because of the failure of the proposed regulations to allow for background fugitive dust levels. In addition, the DES fails to discuss the impact on the energy balance which will result from the potential reduction in the amount of coal mined due to mine closures or coal burned due to increased prices. In either case, a substitute fuel would have to be burned. Furthermore, if OSM is going to propose regulations beyond those promulgated by the U.S. Environmental Protection Agency, the DES should provide an adequate discussion of the justification for so doing, and analyze the direct, indirect and cumulative impacts which will result.

Finally, an integral part of any EIS is the discussion of reasonable alternatives. A programmatic EIS should discuss alternative programs to the one proposed. A review of the subject DES reveals that this has not been done in the instant case. The alternatives discussed in the DES represent alternatives to the individual proposed regulations and not to the program itself. Besides the nationwide regulation program, two other reasonable regulatory alternatives would have been to promulgate regulations on a regional basis taking into account the differences in mining practices and the environment occurring in the East, Midwest, and West or to promulgate general guidelines with the states submitting their own regulatory programs not tied to mandatory nationwide standards and design criteria. Both programs represent viable alternatives to the proposed action which should have been discussed and analyzed in the DES.

El Paso appreciates being afforded the opportunity to comment on this DES.

Very truly yours,

S.F. Sherwood

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**Joint NCA/AMC Committee
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November 27, 1978

Mr. Walter Heine
Director
Office of Surface Mining
Department of Interior
South Interior Building
1951 Constitution Avenue, N.W.
Room 233
Washington, D.C. 20240

Dear Mr. Heine:

Enclosed please find the comments of the Joint NCA/AMC Committee on Surface Mining Regulations regarding the Draft Environmental Impact Statement (EIS) for the Permanent Regulatory Program, proposed by the Office of Surface Mining on September 18, 1978. Notice of Availability of the draft EIS was published in the Federal Register on October 4, 1978 (43 FR 45886). Our comments have been arranged and identified in the order of the draft EIS page numbers. The appropriate Part and Section designations appear in the upper left hand margin. The Joint Committee has commented on both Part A and Part B of the draft EIS. Our comments in Part A are not a summary of comments in Part B. Therefore, the comments for both Parts should be reviewed and analyzed together.

The Joint Committee is comprised of industry experts representing the coal company members of both the American Mining Congress and the National Coal Association, as well as representatives from many of the state coal associations and other coal companies. However, our comments do not represent the only industry positions on the points raised, and individual companies represented on the Joint Committee reserve the right to file their own comments.

While the enclosed comments contain the most detailed expressions of the Joint Committee's concerns we could develop in the time afforded us by OSM, we wish to highlight some of these comments and other related issues. Furthermore, OSM should also consider, as part of the Joint Committee's comments, our testimony on the draft EIS presented at the October 31, 1978 public hearing, a copy of which is enclosed for your convenience.

Continued. . . .

At the very outset, we wish to reiterate our concern that the comment period provided by OSM to review the draft EIS is far too short a time to enable the industry and other interested parties to have a meaningful opportunity for input.

As we know you appreciate, the proposed rules, accompanying preamble, draft regulatory analysis and Draft EIS are lengthy and complex. They are highly technical, dealing with a wide range of subjects, and apparently rely on approximately 800 documents, which according to a notice published by OSM in the Federal Register for October 27 were neither compiled nor available until that date.

While we are not necessarily quarreling with OSM's decision to propose such lengthy regulations and supporting documents, the basic problem still exists. A deadline of November 27 is unquestionably not enough time for adequate public comment.

Although the Joint Committee has been diligent in its analysis of the proposed rules and supporting documents since their proposal and public availability (and indeed since their earlier appearance in draft form), the time allowed to review and analyze the proposed regulations, the preamble, the draft regulatory analysis, the draft EIS and the voluminous technical literature referenced therein, is simply insufficient to provide the fullest and most meaningful comments which are of such great importance not only to us, but also, in our opinion, to OSM as well.

By letter of November 3, 1978 (copy enclosed), the Joint Committee requested that you extend the comment period on the proposed regulations, draft regulatory analysis, and the draft EIS for an additional 60 days beyond November 27. We regret that you have denied this request.

In the interest of providing a comment period of at least reasonable adequacy, so that final regulations can be developed which reflect the best thinking and technical expertise not only of OSM, but also of the industry, the states and other interested parties, we again strongly urge you, at a minimum, to extend the comment period for an additional 60 days.

As for the Draft EIS itself, the first point we wish to highlight is that it incorporates by reference, on page AI-1, the Preamble statement accompanying the proposed permanent program regulations. OSM directs the public to "discussions of topics in the EIS distributed throughout the Preamble and regulations." Through this incorporation by reference technique, OSM appears to be attempting to remedy any possible Draft EIS deficiencies by adding approximately 138 pages of Federal Register Preamble. This, in our view, is an entirely inappropriate technique.

The Office of Surface Mining has made no attempt to edit, integrate or relate the Preamble statement into the body of the Draft EIS. As a result, the Draft EIS becomes two totally separate documents which the public must attempt to combine into one understandable instrument. By adopting this approach, OSM has clearly failed to produce the single, self-contained understandable Draft EIS contemplated by NEPA and called for by the Council on Environmental Quality Guidelines at 40 CFR 1500.8(b).

Continued. . . .

Moreover, NEPA requires that an objective evaluation of alternatives be available for the decision-maker. Instead of preparing a document setting out objective alternatives, OSM has chosen intead to use the Preamble which often is conclusionary, self-serving, and no more than a rationalization for decisions already made. For example, OSM states in the Preamble:

> "The Office believes that non-complying roads should not be exempt from the provisions of proposed Section 816.38. . . (43 FR 41740) (Emphasis added)
>
> * * * *
>
> Also, a ten hour theoretical detention time was rejected as inadequate to achieve water quality standards. (43 FR 41749) (Emphasis added)
>
> * * * *
>
> In response to public comments related to the problems associated with the use of reference areas by the small operator, it was considered by the Office that certain small operators might, upon approval of the regulatory authority, be exempt from the use of reference areas when measuring success of revegetation of the disturbed area. . . This alternative was not adopted by OSM, since it was considered that the reference area requirement is not excessive and leads to achievement of important environmental goals." (43 FR 41776) (Emphasis added)

Apart from the issue of incorporation by reference of the Preamble, the Draft EIS itself is little more than an advocacy document. It certainly does not meet the standard of objectivity required by NEPA, but instead appears to be designed to support positions already determined by OSM.

The advocacy character of the Draft EIS is particularly apparent in its failure to analyze fully all major adverse impacts of the proposed action. For example, the document glosses over impacts on the human environment, including socioeconomic impacts which are an integral part of any adequate EIS. Although not considered by OSM, at a very minimum the regional impacts on certain portions of society will be significant, principally due to the yet undefined extent of compliance costs and mine closures. Yet, the Draft EIS fails to discuss the adverse socioeconomic impacts stemming from these anticipated closures of numerous small operations, particularly in Appalachia and the midwest. As a result of these closures, demographic

Continued. . . .

changes in the size and location of mining operations will occur, a consideration virtually ignored by OSM.

An example of OSM's inadequate treatment of socioeconomic impacts is its proposed air quality regulations. The Draft EIS characterizes the impact as minimal. However, the Draft EIS fails to discuss the potential socioeconomic impacts which would result from either closing or preventing opening of mines in certain areas because of the failure to allow for background fugitive dust levels. If OSM is going to propose regulations beyond those promulgated by the Environmental Protection Agency, then the Draft EIS must provide an adequate discussion of the justification for so doing and the direct, indirect and cumulative impacts which will result.

From the standpoint of failure to consider adverse environmental impacts, the Draft EIS simply omits consideration of pre-existing, non-conforming structures. Although adverse impacts are applicable to many such "structures", the proposed treatment of roads provide a convenient example of how reconstruction could cause serious environmental harm. Many roads have been in existence and use for a considerable length of time. Revegetation has been established along the sides, trees have matured, and there is little or no backfill left to accomplish reconstruction. In order to meet OSM's immediate reconstruction requirements, at a minimum revegetated land would have to be disturbed and backfill borrowed from some location. The environmental harm as a result of this activity would be enormous. Yet, the Draft EIS is silent on this issue.

Besides addressing impacts, another major function of an Environmental Impact Statement is to discuss and analyze alternatives. The courts have held on numerous occasions that an EIS must discuss all reasonable alternatives to the proposed action. Additionally, the Council on Environmental Quality states that a "rigorous evaluation and objective evaluation of all reasonable alternative actions...is essential." Furthermore, the agency must demonstrate a reasonable "balancing" of environmental and other considerations in its choice of a proposed action over alternatives. In fact, Section 102(f) of SMCRA requires a "balancing" "...between protection of the environment...and the Nation's need for coal as an essential source of energy..."

In our opinion, OSM's Draft EIS does not discuss all reasonable alternatives, and those discussed are hardly done so in a rigorous manner. This is particularly applicable to the decision to use uniform national standards for application to all operations. We believe there are at least two viable alternatives to the approach. For example, although the Draft EIS rejects the alternative of analyzing conditions in the individual states having coal, it does so in summary and shallow form. Yet, allowing states to submit their own plans, tailored to their individual topography, climate and types of mining operations, is a very viable alternative and one certainly advocated by certain states. Further, another alternative to the chosen format would be different criteria and design standards for different regions of the country. Both a state-by-state or regional approach are reasonable alternatives which should have been analyzed and discussed in the Draft Environmental Impact Statement. They were not.

Continued. . . .

With regard to any attempts to consider balancing of "protection" and "needs", OSM makes no pretense in this area because it simply ignores the issue.

The alternatives section of the Draft EIS lists the four alternatives as no action, guidelines, less stringent and more stringent regulations. The no action alternative is admittedly unrealistic, and the more stringent and less stringent alternatives are more matters of degree than real alternatives. The alternative of using guidelines instead of regulations is really the only bonafide alternative addressed, and it is not addressed in sufficient detail to adequately and fully compare it to the proposed regulations. It is our position that alternatives must be evaluated for each of the regulations or facts which are determined to have a major environmental impact in Section B III of the Draft Environmental Impact Statement.

Another point we would like to address is the fact that the Draft EIS almost totally ignores the impacts the proposed permanent regulations would have on underground mining. This lack of treatment is evident by the fact that Section D of Part B, which describes coal mining operations and associated environmental impacts, contains 37 pages, of which one-half page is devoted to underground mining. Perhaps this indicates very little impact on the environment arising from underground operations, in which case most of the proposed underground regulations, which are virtually identical to the rules for suface mining, are not needed. In any case, nowhere has OSM provided an analysis of the impacts on these types of operations.

The absence of this analysis is in contravention of Section 516(a) of SMCRA which requires that in promulgating any rules and regulations affecting underground operations, "the Secretary shall consider the distinct difference between surface coal mining and underground mining." Since the impact of the proposed permanent regulations on underground mining operators could be more significant than on surface mining operators, the impact as well as the alternative means of regulations must be fully addressed in the EIS.

The final issue we wish to highlight is the timeliness of this EIS.

The cornerstone of implementing NEPA is the timely preparation of an EIS. However, OSM, in making available the Draft EIS on October 4, 1978, has failed to follow the dictates of Section 702(d) of the Surface Mining Control and Reclamation Act of 1977 ("SMCRA") and Section 102(2)(C) of the National Environmental Policy Act of 1969 ("NEPA"). OSM had previously circulated in late July, 1978, what it termed "preproposed draft regulations", which were not preceded by an EIS or environmental assessment of any type. In actuality, the preproposed draft regulations constituted a "recommendation or report on proposals for major Federal action" within the meaning of NEPA, thereby requiring the preparation of an EIS.

Continued. . . .

Furthermore, OSM has improperly attempted to meet its NEPA duties by circulating a Draft EIS "contemporaneously" with (actually subsequent to) the proposed permanent regulatory program. Section 102(2)(C) of NEPA clearly requires that the final EIS "accompany the proposal through the existing agency review processes." This interpretation has been upheld by the Supreme Court of the United States in Aberdeen & Rockfish R. Co. v. SCRAP, 422 U.S. 289,320 (1975), wherein the Supreme Court stated:

> "Under this sentence of the statute, the time at which the agency must prepare the final "statement" is the time at which it makes a recommendation or report on a proposal for federal action. Where an agency initiates federal action by publishing a proposal and then holding hearings on the proposal, the statute would appear to require an impact statement to be included in the proposal and to be considered at the hearing." (Emphasis added)

Therefore, not only did OSM fail to include any EIS at the time it proposed the regulations in late July, 1978, or September 18, 1978, but also the EIS released October 4, 1978 is only a draft EIS and not the final EIS required to have been made available prior to the proposal. Such action is in disregard of the mandate of NEPA to insure consideration of the environmental impact of a contemplated action during the development of the proposal. In rulemaking such an evaluation can only occur if the EIS is final prior to the advancing of proposed regulations.

We must emphasize that had OSM developed the EIS in the proper and timely fashion set out above, the time constraints described on page two of this letter (which so severely impacted our ability to review and comment on the draft EIS, draft regulatory analysis, and proposed regulations) would have been greatly alleviated. Furthermore, timely development of the EIS would not only have significantly improved the ability of the industry and other interested persons to adequately comment on the regulations, but also OSM and Departmental decision-makers would have been able to use the EIS as a management and decision document--a result which is the very purpose of NEPA.

In light of OSM's failure to properly develop an EIS, we respectfully and urgently suggest that OSM could remedy this critical flaw by taking the following actions:

1. Suspend the comment period on the proposed permanent regulations;
2. Extend the comment period on the Draft EIS for at least 30 days;

Continued. . . .

3. Finalize the EIS and republish it;
4. Republish and reopen the comment period on the permanent regulations for a period of at least 60 days after the final EIS is published.

In closing, we are confident that if the Joint Committee's comments on the Draft EIS are adopted by OSM, they will be an important aid to OSM and Departmental decision-makers in achieving a permanent regulatory program that can be effective for all parties -- the industry, the States, OSM and the public. We urge that our comments be thoroughly considered, and, as always, we are prepared to discuss any questions you may have about them at your convenience.

Sincerely yours,

Charles F. Cook

Charles F. Cook
Vice President
American Mining Congress

William E. Hynan
Senior Vice President
National Coal Association

Enclosures

AB-100

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STATEMENT OF
HARRISON LOESCH
VICE PRESIDENT
PEABODY COAL COMPANY

REPRESENTING THE
NATIONAL COAL ASSOCIATION/AMERICAN MINING CONGRESS
JOINT COMMITTEE
ON
SURFACE MINING REGULATIONS

AT

OFFICE OF SURFACE MINING
PUBLIC HEARING ON
PROPOSED PERMANENT REGULATORY PROGRAM
DRAFT ENVIRONMENTAL IMPACT STATEMENT

WASHINGTON, D.C.
OCTOBER 31, 1978

STATEMENT OF HARRISON LOESCH
REPRESENTING THE
NATIONAL COAL ASSOCIATION/AMERICAN MINING CONGRESS
JOINT COMMITTEE ON SURFACE MINING REGULATIONS

AB-101

My name is Harrison Loesch. I am Vice President for Government Relations of Peabody Coal Company. I am here today on behalf of the National Coal Association/American Mining Congress Joint Committee on Surface Mining Regulations to present industry views on the Draft Environmental Impact Statement for OSM's proposed permanent regulatory program.

My testimony today will be limited to significant concerns identified by the Joint Committee to date in the draft EIS. However, our specific comments should not be considered as final or definitive Joint Committee positions. They represent only the results of our preliminary analysis. We will be submitting further written comments before the close of the comment period.

Before addressing the substance of the draft EIS, we would like to point out what we believe may be a major procedural flaw, the timeliness of this document. Without going into more detail at this time, we have a serious concern that the permanent program regulations should not have been proposed until a final EIS had been made available.

By declaring in the Surface Mining Act itself that the permanent program regulations would require the preparation of an Environmental Impact Statement, Congress placed OSM on notice on August 3, 1977, that it must have available an

objective, analytical document to use early in the decision making process. However, what we have instead is a document issued after the proposal of the permanent regulations that appears to do no more than rationalize and justify decisions already made by OSM. As a consequence, we believe that the draft EIS is so inadequate as to preclude meaningful analysis, even at this late date, by the the decision makers in OSM and the Department.

The tone of rationalization and justification is apparent from the first page of the draft EIS.

In the Summary of Environmental Impacts, OSM reaches perhaps its most important conclusion in the draft EIS, stating that "the major environmental impacts (of the regulations) tend to be beneficial measures which mitigate adverse effects of (surface coal mining) operations." However, OSM's sole rationale and support for this major conclusion is to select one of the 13 congressional "Purposes" set out in section 102 of the Surface Mining Act - "the general purpose of SMCRA is to establish nationwide regulations for the protection of society and the environment from the adverse effects of surface coal mining operations." A more inadequate and self-serving justification is difficult to imagine. Obviously, Congress was not satisfied that the mere adoption of one or all of its "Purposes" statements was sufficient for such a conclusion or else they would not have mandated the preparation of an environmental impact statement for the permanent regulatory program.

The advocacy character of the draft EIS is also apparent in its failure to analyze fully all major adverse impacts of the proposed action. For example, the document glosses over impacts on the human environment, including socioeconomic impacts which are an integral part of any adequate EIS. Although not considered by OSM, at a very minimum the regional impacts on certain portions of society will be significant, principally due to the yet undefined extent of compliance costs and mine closures. The point that closures of smaller mines will almost certainly occur as a result of the proposed regulations has been forcefully made most recently during the public hearings by state representatives, bond experts, bankers, and the smaller operators themselves. Yet, the draft EIS fails to discuss the adverse socioeconomic impacts stemming from these anticipated closures of numerous small operations, particularly in Appalachia and the Midwest. As a result of these closures, demographic changes in the size and location of mining operations will occur, a fact which is apparently inconsequential to OSM.

At one point the EIS drafters must have recognized there would be some impact on small operators becuase there is an assumption that small operators of "marginal operations", can, in attempts to comply, join together and form cooperatives. Therefore, without admitting it, the draft EIS in effect says that if these small operators don't pool their efforts, they face closure as a result of the regulations. But, there is no discussion of the major adverse impacts on the human environment which would certainly occur in communities where these small operators are located if they don't form these cooperatives and there are a number of mine closings.

In its summary discussion of socioeconomic impacts, OSM obviously reaches the conclusion that economics can be neatly separated from environmental consequences, as it casually dismisses any real economic evaluation by stating "purely economic effects of the regulations is not a proper subject for this draft EIS." The public is then referred to the draft Regulatory Analysis.

It is our position that economics cannot be separated from environmental considerations and a cost/benefit analysis is absolutely necessary to an adequate Environmental Impact Statement covering the proposed permanent program. This position is supported by the National Environmental Policy Act which makes reference to evaluation of economic considerations as agencies give appropriate consideration to environmental values. Further, existing Council on Environmental Quality Guidelines for Federal Agency Preparation of Environmental Impact Statements reemphasize the need for economic evaluation in several instances, including the need for "a systematic evaluation of reasonable alternative courses of action and their social, economic, and environmental consequences."

Among the economic evaluations missing from the draft EIS are (1) increases in governmental expenditures and consumer costs and their relationship to improvement of the environment and (2) the direct and indirect impacts the proposed regulations will have on the energy balance as it relates to potential mine closures and loss of mineable reserves.

Besides addressing impacts, another major function of an Environmental Impact Statement is to discuss and analyze alternatives. The courts have held on numerous occasions that an EIS must discuss all reasonable alternatives to the proposed action. Additionally, the Council on Environmental Quality states that a "*rigorous* evaluation and objective evaluation of *all* reasonable alternative actions...is essential." Furthermore, the agency must demonstrate a reasonable "balancing" of environmental and other considerations in its choice of a proposed action over alternatives. In fact, Section 102(f) of SMCRA requires a "balancing" "...between protection of the environment...and the Nation's need for coal as an essential source of energy..."

In our opinion, OSM's draft EIS does not discuss *all* reasonable alternatives, and those discussed are hardly done so in a rigorous manner. In particular, I call your attention to the decision to use uniform national standards for application to all operations. We believe there are at least two viable alternatives to this approach. For example, although the draft EIS rejects the alternative of analyzing conditions in the individual states having coal, it does so in summary and shallow form. Yet, allowing states to submit their own plans, tailored to their individual topography, climate and types of mining operations, is a very viable alternative and one certainly advocated by certain states. Further, another alternative to the chosen format would be different criteria and design standards for different regions of the country.

Both a state-by-state or regional approach are reasonable alternatives which should have been analyzed and discussed in the draft Environmental Impact Statement. They were not.

With regard to any attempts to consider balancing of "protection" and "needs", OSM makes no pretense in this area because it simply ignores the issue.

The alternatives section of the draft EIS lists the four alternatives as no action, guidelines, less stringent and more stringent regulations. The no action alternative is admittedly unrealistic, and the more stringent and less stringent alternatives are more matters of degree than real alternatives. The alternative of using guidelines instead of regulations is really the only bonafide alternative addressed, and it is not addressed in sufficient detail to adequately and fully compare it to the proposed regulations. It is our position that alternatives must be evaluated for each of the regulations or facts which are determined to have a major environmental impact in Section BIII of the draft Environmental Impact Statement.

The final point I would like to address is the fact that the draft EIS and the referenced Regulatory Analysis almost *totally ignore* the impacts the proposed permanent regulations would have on *underground mining*. This lack of treatment is evident by the fact that Section D of Part B, which describes coal mining operations and associated environmental impacts, contains 37 pages, of which one-half page is devoted to underground mining. Perhaps this indicates very little impact on the environment arising from underground operations, in which case most of the proposed underground regulations are not needed. In any case, nowhere has OSM provided an analysis of the impacts on these types of operations.

The absence of this analysis is in complete contravention of Section 516(a) of SMCRA which requires that in promulgating any rules and regulations affecting underground operations, "the Secretary shall consider the distinct difference between surface coal mining and underground mining." Since the impact of the proposed permanent regulations on underground mining operators could be more significant than on surface mining operators, the impact as well as the alternative means of regulations must be fully addressed in the EIS.

This concludes my prepared testimony. The Joint Committee appreciates the opportunity to testify at this and the other hearings. As always, we are prepared to work with OSM in improving this regulatory package. Thank you.

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**Joint NCA/AMC Committee
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November 3, 1978

copy

Mr. Walter Heine
Director
Office of Surface Mining
Department of Interior
South Interior Building
1951 Constitution Avenue, N.W.
Room 233
Washington, D.C. 20240

Dear Mr. Heine:

The purpose of this letter is to request a 60-day extension of the period afforded by OSM for public comment on the proposed permanent program requirements for surface coal mining and reclamation operations, including the draft regulatory analysis and the draft environmental impact statement.

As you know, Joint Committee testimony on this point was presented at the OSM public hearing on the proposed permanent regulatory program on October 24, in Washington, D.C.

At that hearing we stated that the 60-day comment period provided by OSM in the notice of proposed rulemaking (since then, extended additional 10 days until November 27) is far too short a period to enable the industry and other interested parties to have a meaningful opportunity for input.

As we know you appreciate, the proposed rules, accompanying preamble, draft regulatory analysis and draft environmental impact statement are lengthy and complex. They are highly technical, dealing with a wide range of subjects, and apparently rely on approximately 800 documents, which according to a notice published by OSM in the Federal Register for October 27 were neither compiled nor available until that date.

While we are not necessarily quarreling with OSM's decision to propose such lengthy regulations and supporting documents, the basic problem still exists. A deadline of November 27 is unquestionably not enough time for adequate public comment.

Although the Joint Committee has been diligent in its analysis of the proposed rules and supporting documents since their proposal and public availability (and indeed since their earlier appearance in draft form), we are simply not able in the time allowed to review and analyze the proposed regulations, the preamble, the draft regulatory analysis, the draft environmental impact statement and the voluminous technical literature referenced therein to provide the full and meaningful comments which are of such great importance not only to us, but also, in our opinion, to OSM as well.

Since September 18, when the regulations were proposed in the Federal Register, through today, there have been 25 separate Joint Committee meetings to develop testimony and preliminary comments on the regulations, environmental impact statement and the draft regulatory analysis. But frankly, at this stage of review, more than half-way through the 60-day comment period, we feel as if we have only addressed the tip of the iceberg.

In the interest of providing a comment period of at least reasonable adequacy, so that final regulations can be developed which reflect the best thinking and technical expertise not only of OSM, but also of the industry, the states and other interested parties, we strongly urge you to extend the comment period for an additional 60 days beyond November 27.

Sincerely yours,

Charles F. Cook

Charles F. Cook, Vice President
American Mining Congress

William E. Hynan

William E. Hynan, Senior Vice President
National Coal Association

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PART A
SECTION I

PART A: STATEMENT OF ENVIRONMENTAL IMPACT

Section I: Introduction

Pages AI-2 and AI-3:

The draft EIS fails to describe clearly the base from which the impacts of the permanent program regulations have been measured. In one instance the base is specified as the "pre-Act environmental impacts." This implies that State laws were taken into account. However, the draft EIS states that these State laws were not considered. The draft EIS then comes full circle and states that the base is not "zero" and, surprisingly, ties the regulation impacts back to "previously existing Federal and State requirements."

The absence of a clearly articulated base is, in our view, a fundamental deficiency in the draft EIS. If a "zero regulation base" is assumed, then it logically follows that the proposed regulations will have a beneficial impact on the environment. And, despite a statement to the contrary, it is obvious that a "zero base" or something closely akin has been used. However, that base is not appropriate because state regulations do exist. Therefore, the draft EIS should compare and analyze the proposed regulations with those standards already in existence on a state-by-state or on a regional basis to determine the true impacts on the physical and human environment. If this approach is used, as required by NEPA, then all the impacts will not be beneficial; in fact, it is likely that many of the impacts will be adverse. Our comments in many instances identify these adverse impacts.

It is also not enough for the draft EIS to fall back on the theory that State requirements will be considered in the context of OSM approval of State programs or the implementation of Federal programs because such actions are exempt from NEPA under Section 702(d) of SMCRA.

PART A: STATEMENT OF ENVIRONMENTAL IMPACT

Section III: Environmental Impact

A. National Impacts

Page AIII-1:
Agricultural Productivity

The draft EIS states that the proposed regulations will have a major beneficial impact nationally in preserving agricultural productivity. This statement is not supported by Part B, Section III of the draft EIS. The Soil Conservation Service estimates there are currently over 250 million acres of prime farmland in the United States. Of this amount, approximately 1,000,000 acres are irretrievably lost annually to agricultural production due to competing forms of land use.[1] And, of this 1,000,000 acres, surface mining for coal accounts for only 21,800 acres of prime farmland per year. (See page BIII-28 of draft EIS) It follows, therefore, that the national impact of the regulations on agricultural productivity will at best be of only minor beneficial effect. This impact is further reduced because the surface mined land is only temporarily removed from use for agricultural productivity.

Page AIII-1:
Quality of Water

The implication in the draft EIS conclusion that the quality of water resources will be preserved by way of the OSM regulations ignores existing Federal and State water laws that already protect the nation's water resources through the regulation of effluent. The determination of major national benefit demonstrates again the draft EIS deficiency of using what appears to be a "zero" base despite statements to the contrary.

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[1] Report of the Interagency Task Force on the Issue of a Moratorium or a Ban on Mining in Prime Agricultural Lands, prepared by Office of Management and Budget, Soil Conservation Service, Bureau of Mines, Federal Energy Administration, U.S. Environmental Protection Agency.

Page AIII-1:
Fish and Wildlife Resources

The conclusion of "major national benefit", particularly with respect to threatened and endangered animals and plants, entirely disregards existing federal laws that protect such animals and plants on all lands, federal and nonfederal. It is noted that there is an implication in the draft EIS discussion that this protection extends only to the animals and plants on federal lands.

In support of its major benefit conclusion, the draft EIS also states that contemporaneous reclamation in combination with revegetation requirements will return land disturbed by mining to productive habitats for wildlife more promptly than has been the case under pre-Act standards. However, most state laws presently require contemporaneous or concurrent reclamation and there is nothing in the proposed regulations which suggests reclamation will occur more promptly than was the case under pre-Act standards. We believe, based upon numerous years of collective state reclamation experience, that the exact opposite may well be true due to topsoil and sub-soil removal storage and replacement requirements, return to

approximate original contour, elaborate drainage and water treatment design and restoration of land use potential.

A substantial number of acres will be disturbed that would not have been disturbed under existing state laws in the midwest and elsewhere. Further, the area disturbed may on the average remain denuded and exposed to the elements for a greater length of time under the proposed regulations than was the case under pre-Act standards because of the topsoiling and sub-soiling requirements.

It may also be necessary to re-affect many areas after they have become stable under the proposed regulations to return the land to approximate original contour and restore land use potential. If this occurs wildlife habitat will certainly be reaffected and wildlife likely further displaced as a result. Returning land to a condition where it is capable of supporting all uses it was capable of supporting prior to mining will invariably place post-mining land use pressures on the land which will reduce its attractiveness as wildlife habitat and in many cases will result in land uses such as row-crop farming, which displace many forms of wildlife. It is obvious that the draft EIS has not considered these circumstances in the alternatives used to arrive at the major benefit conclusion.

Page AIII-2

In the discussion on plant varieties, the draft EIS emphasizes the diversity that will result from the regulations.

However, this appears to be nothing more than an advocacy argument since the regulations require that only "native" species be used unless otherwise approved by the regulatory authority. Therefore, in some cases it is highly probable that less diversity will occur as a result of the regulations restricting the introduction of introduced species.

We also dispute the conclusion of OSM that the proposed air quality control regulations will have a major impact in reducing coal mining's contribution to air pollution in the west.

For the past several years, EPA and the western states have been developing a regulatory program for air pollution resulting from surface mining in the west. Fugitive dust emissions are already being reduced to the maximum extent possible through EPA's air quality regulations (PSD and non-attainment). Further, as noted in our subsequent comments, the draft EIS conclusion is completely unsubstantiated in Part B. The regulations will result in an unnecessary duplication for those states with an approved EPA State Air Program which now require modeling for a surface mine, and for those states which must be in compliance by March 1979 with state implementation plans under the Clean Air Act.

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The SMCRA does not mandate OSM to establish its own regulatory program for the control of air pollution. Instead it requires that the operator demonstrate compliance with

applicable air quality laws and regulations. It is difficult to understand why the OSM program, which under the express language of Section 508(a)(9) of SMCRA should amount to nothing more than to require demonstration of compliance with existing law, is deemed to have major national significance. We have been unable to locate any provision of the Act which expressly authorizes OSM to establish its own air quality program. Therefore, the program is not only unnecessary but unauthorized as well. In addition, the draft EIS fails to address the impacts the proposed air regulations would have on coal mining operations, especially in the west, and the attendant impacts on the economy and energy balance which will occur as a result of mine closures.

B. Impacts on Specific Resources, Including Unavoidable Adverse Impacts

As an introductory comment, it is noted that Section III-B is revealing as to what is not contained in the discussion, as well as what is discussed. Specifically, no discussion is given in the draft EIS--or in the Draft Regulatory Analysis--of the economic impacts on coal recovery by the regulations' performance standards pertaining to topography and geology, soil resources, water resources, vegetation, wildlife, aquatic life, cultural resources, esthetic values, prime farmlands, alluvial valley floors, and designating areas unsuitable. A cost/benefit analysis must be included as this was obviously part of the reason Congress mandated an EIS be prepared on the proposed permanent program.

Page AIII-3:
Air Quality

The conclusion that the fugitive dust control measures required by the proposed regulations will contribute to achievement and maintenance of "other applicable federal and state air quality standards" is at best misleading, and certainly is not supported by Part B of the draft EIS. For example, OSM's system of controls and monitoring does not take into account the high degree of complexity of the PSD regulations which render post-construction monitoring virtually meaningless. In addition, OSM has failed to recognize that natural background levels of fugitive dust in many areas, especially the west, exceed the established standards.

Page AIII-4:
Soil Resources

The draft EIS characterizes the removal of vegetative cover and topsoil handling as a "minor" adverse affect of mining. There is no supporting factual basis for such a statement in Part B or in existence. Generally, the proposed regulations will increase the potential for air, water and other environmental damage. The removal and segregation of topsoil should contribute significantly to fugitive dust at the mine. This was not addressed at all in the draft EIS. The regulations go too far in the soil resource requirements.

Alternatives, unexplored by the draft EIS and OSM, are available that will reduce what is likely to be a major environmental price for an environmental regulation and still achieve the protection desired.

Page AIII-4:
Water Resources

The draft EIS discusses how reclamation activities will assure minimum local disturbance to water resources. The discussion includes mention of both "effluent limitations" and "design criteria" to minimize any water pollution. These are two very different concepts. Currently, the EPA under the Federal Water Pollution Control Act, has programs to control water pollution from coal mining and other mining activities. Sections 301 and 304 provide for the promulgation of "effluent guidelines" which reflect best available technology and will meet "water quality standards." Sections 201 and 208 provide for the regulation (by EPA and the states) of nonpoint sources of pollution such as mining activities. These programs are also designed to meet "water quality standards." While OSM responsibilities and concerns concerning water resources are recognized, achievement of water performance standards should be left under the administration of one federal agency, EPA. SMCRA mandates such a concept of single rather than overlapping jurisdiction and enforcement.

**Page AIII-5:
Vegetation**

There is no justification for the inference that under existing state law revegetation requirements will lead to a permanent cover that is not compatible with the proposed post-mining land use.

The concepts of natural succession and plant diversification have been recognized on the state level for several years, and the concepts have now evolved to the point that most states recognize their importance to planned post-mining land use. As has previously been mentioned, this concept of contemporaneous reclamation is not new and therefore will not reduce the length of time disturbed areas are without effective cover. What is new, however, and is not mentioned is the elaborate topsoiling and subsoiling requirements, return to approximate original contour, stream diversion and impoundment construction criteria. These regulations will most likely increase the total number of acres affected by mining because of the length of time disturbed areas are without effective covers. Yet OSM has chosen to gloss over all this with the casual remark that this is an inevitable result and should be of minor consequence.

**Pages AIII-5 and AIII-6:
Wildlife and Aquatic Life**

The draft EIS cites numerous questionable values of its regulation but ignores very real wildlife problems created

by the proposed regulations which would tend to mitigate any beneficial effect. No meaningful evaluation is given to the potential adverse impact the topsoiling handling provision, land use provisions, approximate original contour provisions, and hydrology provisions may have on wildlife. The problems that could be created by the proposed regulations are as follows:

1. Result in more acres of affected land than has occurred.
2. Result in larger acres of denuded land at any given time.
3. Result in areas remaining denuded for longer periods.
4. Result in reaffecting an area that has been previously affected then stablized for an extended period of time.
5. Result in land use pressures that are not compatible with the future well being of fish and wildlife resources.

Further, as has been previously pointed out, existing federal laws already provide protection for those plants and animals in the threatened and endangered class. Moreover, the draft EIS makes a broad unsupported generality that "mining can contribute to the extinction of a rare species." This conclusionary self-serving statement adds nothing to the draft EIS.

Broad statements are also made on the impacts of mining on wildlife and aquatic life. However, the draft EIS falls short in describing the impacts in terms of degree of real effect.

With specific regard to aquatic life, there is no discussion of the relationship of the effects of existing water quality control regulations to what these proposed regulations are intended to do. The effect of this is an indirect justification of the proposed regulations in general without regard to existing requirements; and it also leads to the conclusion that the need for these regulations lies in a lack of regulation of water quality at present, a conclusion which is erroneous.

The wildlife and aquatic life evalution is but another example of a justification for the regulations rather than an objective evaluation for the decisionmaker.

Page AIII-7:
Land Use

One of the major faults in the draft EIS is that it, together with the Regulatory Analysis, has failed to consider the effects that the designation of areas as unsuitable for mining provisions will have on recovery of the coal resource.

Secondly, the petition process for designation is not analyzed for the potential adverse effects it could have. For example, there must be consideration given to the potential effects of tying up coal resource lands in the petition process when they justifiably should not warrant this scrutiny except for allegations of the petitioner.

Page AIII-8:
Transportation Systems

The draft EIS concludes that upgrading of transportation facilities will result in minor beneficial impact. What this fails to evaluate is the environmental harm that will result in bringing existing non-conforming structures into compliance. OSM has presumed that such facilities are causing pollution. However, the environmental damage, if any, resulting from these non-conforming structures will probably be far less than the environmental damage which will result from the repair work to be done on the structure. A reasonable alternative would seem to proceed on a case-by-case basis to determine the measures required to deal with pre-existing, non-conforming structures. Otherwise, the adverse impacts far exceed any so-called "minor beneficial impact."

Pages AIII-8 and AIII-9:
Safety

The draft EIS appears to be unaware of MSHA in this evaluation. MSHA has vigorously enforced the provisions of mine safety laws for the past 10 years, and yet there is no attempt to take into consideration what the impact from the OSM regulations upon this federal agency will be. The draft EIS gratuitously notes in its evaluation that "safety risks which result from unregulated mining include danger to mineworkers...from blasting, sudden subsidence, landsides, and failure of fills and dams." Since MSHA is the agency charged with the responsibility for protection of the safety of miners, OSM should submit to MSHA any suggested safety regulations which will provide for the increased safety of miners.

Page AIII-9:
State and Local Governments

The description of the types of impacts which will be experienced by state and local governments as a result of implementing the permanent regulations is adequate only to the extent that it identifies those impacts. However, the conclusion that these are minor adverse impacts is not substantiated. With the exception of a superficial estimate of the number of additional personnel which may be required, the draft EIS makes no effort to quantify the extent or the cost of these impacts to the states. In some cases, these costs could be very high. The costs for each state to administer the permanent program will far exceed whatever costs have been associated with the interim program. There is no assurance or substantive evaluation to demonstrate that federal grants will be able to mitigate this impact, and these additional costs, even with partial federal grants, will have to be recovered through additional tax revenues. The statement should have quantified these impacts and considered alternative methods of certifying and administering state programs which would have been less costly.

Page AIII-9:
Socioeconomic Impacts

The statement that overall the regulations will have minor beneficial socioeconomic impact is indicative of the inadequate consideration that has been given in the draft EIS to an area of extreme importance. From a regional standpoint, the impact on certain portions of society will be significant, principally due to the yet undefined extent of compliance cost and mine closures. No attempt was made to evaluate these impacts.

Demographic changes in the size and location of mining operations will occur because compliance costs per ton vary considerably depending on such factors as method of mining, geological conditions, and mine size. It is anticipated that a number of mines primarily in Appalachia and the midwest will shut down resulting in a loss of employment for citizens directly and indirectly affected.

On both the state and federal level there is ever increasing concern over the rapidly increasing costs of electrical energy to domestic and commercial consumers alike. These concerns are altering personal energy consumption habits and generating calls for reform in utility rate structures and methods of determining rate increases. The effect of the regulations on these areas has not been addressed, even though NEPA requires examination of the impacts on the total human environment.

Since 39 states representing 97 percent of national coal production already had mining and reclamation laws, these new regulations will only marginally improve the long term productivity and use of land affected by mining. In addition, the inflexibility of the regulations may discourage technological efforts to improve reclamation practices beyond those specifically established by the regulations.

Finally, the net economic cost/benefit to society is unclear at this point since the draft Regulatory Analysis does not include the reclamation fee, associated governmental administrative costs, nor adequate assessment of the incremental cost/benefit to society of the regulation relative to existing reclamation practices. The regulations will definitely increase governmental expenditures and consumer costs, and may or may not result in marginal improvement in the environment, land use, and overall benefit to society.

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These issues need to be addressed and analyzed in much greater detail in the final EIS to insure that the proposed regulations and administrative program do in fact benefit society including the impact on major coal producing regions.

It should also be pointed out that it is not sufficient to dismiss the need to analyze the socioeconomic effects in this draft EIS by referrring to the draft regulatory analysis, particularly since OSM implies that it is under no actual requirement to prepare the regulatory analysis. NEPA case law consistently finds that economic impacts must be analyzed, especially with respect to programmatic EIS's.

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PART A: STATEMENT OF ENVIRONMENTAL IMPACT

Section IV: Relationship Between Local Short-term Use of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

Pages AIV-1:

The draft EIS asserts that the regulations provide an opportunity for more innovative mining firms to improve the efficiency of their operations and improve their production in light of the future regulatory certainties established by the permanent regulatory program. Such a self-serving assertion is challenged and requires support which is nowhere to be found in the draft EIS. It is more likely that because of inflexibility of the regulations, there will be less innovation.

Further, there is no regulatory certainty because OSM reserves the right to require revisions to programs on its own without any guidelines for proposing the revisions.

PART A: STATEMENT OF ENVIRONMENTAL IMPACT

Section V: Irreversible and Irretrievable Commitments of Resources

Page AV-1:

The draft EIS states that the anticipated increases in personnel, equipment and materials described in the above paragraph are some of the increased costs of compliance which are more fully described in the Regulatory Analysis. We have reviewed the Regulatory Analysis and do not find where the anticipated increases are "more fully described". The Regulatory Analysis does contain cost tables which appear on their face to be both inadequate and inaccurate, but these cost tables are not fully described so the reader is unable to evaluate the figures without obtaining the back-up material relied upon by OSM to compile the tables.

It is futher stated in the draft EIS that the costs associated with mitigating the adverse environmental impacts of mining are transferred from society to the industry. This is a misleading statement. Society will always pay the costs associated with mitigating the adverse environmental impacts of mining or anything else. These costs are passed on to society in the form of higher prices for energy and products produced by energy.

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Because society pays more for the same amount of energy and products, inflation is triggered.

PART A: STATEMENT OF ENVIRONMENTAL IMPACT

Section VI: Summary of Alternatives to the Proposed Federal Action

The courts have required impact statements to discuss all reasonable alternatives to a proposed action, including alternatives outside the jurisdiction of the initiating agency. Judicial interpretation has required that an agency also demonstrate a reasonable "balancing" of environmental and other considerations in its choice of a proposed action over alternatives. Indeed SMCRA itself requires a "balancing" "...between protection of the environment...and the Nation's needs for coal as an essential source of energy..." (Section 102(f)).

The draft EIS does not discuss all reasonable alternatives nor does it demonstrate a reasonable balancing of environmental and other considerations, in its choice of proposed actions over alternatives.

The alternatives analyzed in the draft EIS are only the residual set of alternatives considered by OSM before writing the draft EIS. The first set of alternatives were the options that OSM must have considered regarding the approach to the draft EIS to analyze the degree of change between pre-Act environmental impacts of coal mining and post-permanent regulatory program impacts of coal mining on on the environment. The draft EIS rejects the alternative of analyzing conditions in the states having coal reserves. Yet, OSM has obviously attempted to analyze state laws and regulations in terms of their effectiveness in controlling adverse environmental impacts. It is stated on page AI-3 of the draft EIS:

> "Nor should the proposed regulations be considered from the point of view that they represent previously unheard of or untried requirements. In many cases, precedent will be found in previously existing state requirements."

If OSM has seen fit to incorporate specific requirements from specific state statutes and regulations, then it is a reasonable expectation that OSM should have investigated and considered the reasons why particular state mandates are or are not universally incorporated in each state that regulates coal mining activities. If the environmental problems associated with surface mining are the same for each state or region, then the incorporation of specific state requirements into a nationwide federal program is justified. However, if the environmental problems associated with surface mining are not the same for each state or region, and further, if the degree of the problems differ from state to state or region to region, then the nationwide regulations discussed in the draft EIS as the preferred alternatives perhaps represent a misinterpretation of the responsibility and authority conferred by Congress to OSM. The regulations

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and the EIS do not make provisions for controlling specific problems in specific regions of the country. For example, examine Table BII and the accompanying narratives. Again and again the narratives state that while certain sections of the proposed regulations will have major effects in one region, the effects in other regions will be minor or negligible. The preponderence of such conclusions in the draft EIS analysis naturally raises the question as to the need for the particular regulation and the need for state or regionally specific regulations rather than national regulations.

Certainly, regulations that are applicable without variation across the country is one way to interpret Section 102(a) of the Act to "establish a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations;..." However, there are other reasonable alternatives that would fulfill the mandate of the Act which are not presented in the EIS. The alternatives analyzed in the draft EIS are:

- No action;
- Establish general objectives or goals for the states;
- More stringent regulations;
- Less stringent regulations.

The no action alternative is in fact not an alternative at all since the SMCRA specifically mandates OSM to promulgate a national program.

The establishment of general objectives or goals for the states is a viable alternative. However, the draft EIS dismisses the alternative out of hand largely on the assumption that "...state efforts and costs may be considerably greater..." than if the preferred OSM alternative is approved. However, comparisons of estimates of efforts and expenses by the states are not presented nor attempted in the draft EIS to prove the point that establishment of general objectives or goal for the states is an unsound alternative.

Indeed the draft EIS states, "...There would be negligible direct environmental impact under these alternatives by comparison to the proposed regulations other than those impacts discussed above (more effort and expense to the states)..."

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This alternative may in the long run be more effective in fulfilling the Act and cause less effort and expense to the states than the proposed action.

The final two alternatives of more stringent and less stringent regulations are not alternatives. They are merely different degrees of the proposed action, and do not represent truly alternate means in which to administer the Act.

Thus, of the four alternatives discussed, only two are different from the proposed action. One of those two (no action), is moot and the second (guidelines) is dismissed by the draft EIS without evidence of substantive analysis that would reasonably eliminate the alternative from implementation.

Other alternatives that should have been considered but were not considered are:

- Regulations written specifically for regions. Regions could be delineated by such things as physiographic province, vegetation, precipitation or coal quality.
- Regulations written that set goals for other Federal agencies now regulating surface mining that would effectively administer the Act without establishing national standards of design and limitations.

In addition, each individual standard is unique and presents an array of alternatives peculiar to itself. To be adequate, the discussion of alternatives should present the alternatives evaluated in each individual case where significant alternative approaches were available. Incorporating the preamble to the proposed regulations does not accomplish this. The Preamble, in most cases, merely identifies the alternative which was considered and dismisses it with a simple statement. There is no consideration of the impacts of the alternatives as there should be if it is to be made part of the draft EIS.

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PART B: SUPPORTING ANALYSIS AND DATA

PART B: SUPPORTING ANALYSIS AND DATA

Section I: Other Related Activities

Pages BI-3 through BI-5:
Environmental Protection Agency (EPA)

The draft EIS states that OSM requirements "will fill in gaps not now occupied by the EPA regulatory program." This section also states that the regulation under the Federal Water Pollution Control Act (FWPCA) do not cover nonpoint sources of discharge. Further, the draft EIS asserts that EPA's definition of waters of the United States does not meet OSM's definition of waters of the United States. The implication of this statement is that EPA's definition is too narrow.

It is our opinion that OSM has failed to recognize ongoing programs and the developing programs of EPA. It is common knowledge to those individuals and groups concerned with water pollution that:

- Section 201 and 208 of the FWPCA deal specifically with nonpoint sources of discharge. Further, it is a new EPA policy to include provisions to control nonpoint discharges in NPDES permits by requiring the use of best management practices;
- On August 21, EPA proposed a very broad definition of waters of the United States including

waters susceptible to use in interstate commerce, intermittent streams, tributaries of navigable waters, interstate waters, all other waters which would affect or could affect interstate commerce (e.g., intrastate lakes, all impoundements of waters of the United States otherwise defined as navigable waters, etc.) This definition is quite broad and there are few waters, if any, that are not included in it.

The essential question which the draft EIS raises is whether or not the waters of the United States are being protected. As shown above, the waters are being protected. Further, the Safe Drinking Water Act and the Resource Recovery Act also have provisions for protecting water resources.

The draft EIS does not identify on page BI-4 the so-called "gaps" filled by the OSM regulations. This should be done and the effects of these regulations analyzed.

The draft EIS addresses the Clean Air Act and certain ambient air standards. It refers to EPA's policy and quotes from a portion of the preamble to the June 19, 1978 EPA PSD regulations which indicates some of the reasons why EPA "decided to exclude from any air quality impact assessment" any fugitive dust.

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The quote from EPA's preamble to the PSD regulations is misleading and does not fully state EPA's position in regard to fugitive dust emission controls. The next paragraph in EPA's preamble goes on to demonstrate the legislative support for the position EPA has taken. The next to last paragraph then points out that fugitive dust is considered when determining the necessity for a PSD permit and also the applicability of BACT. The OSM quotation misleads the reader into thinking EPA ignores fugitive dust when in fact EPA regulates fugitive dust emissions to the maximum degree achieveable as defined by BACT.

In view of the legislative support EPA cites for its position, any requirements beyond those of EPA which OSM imposes would be invalid since they would supersede, amend and modify regulations issued under the Clean Air Act, in contravention of Sections 501 and 702 of SMCRA. Accordingly, with respect to the air quality portion of the proposed regulations, there should be only a note that EPA regulations govern.

PART B: SUPPORTING ANALYSIS AND DATA

Section II: Background and Probable National Effects of the Proposed Permanent Regulatory Program Regulations

Page BII-9, Table B4:

Table caption should indicate that values represent production "per year".

Page BII-61 Underground Mining

The EIS is totally inadequate in its discussion and analysis of underground mining. In this regard the EIS mirrors a major deficiency of the regulations. Nowhere in the EIS is the justification for the underground portion of the regulations found, apparently ignoring the Section 516 (SMCRA) mandate that the Secretary consider the distinct difference between surface coal mining and underground coal mining. The one-half page of discussion on page BII-61 does not accomplish the clear intent of Congress. This is evident by the following statement from the EIS which summarizes OSM's perceptions of underground mining:

> "Dependent upon the area of the nation in which underground coal mining occurs, similar adverse environmental impacts can be created by those disturbed surface areas associated with underground mining activities as was discussed in Section 3."

Section 3 is a discussion of surface mining. The potential and even probable impacts of underground mining differ in

scope, magnitude, probability and significance from surface mining. The EIS and the proposed regulations do not recognize this basic mining fact. OSM has obviously failed to consider the specific differences between the two types of mining. For example, the proposed regulations in section 817.43(a) state:

> "Disturbing the smallest practicable area at any one time during the mining operation through progressive backfilling grading, and timely revegetation;..."

There cannot be progressive backfilling of the surface area of an underground mine during mining. If there is backfilling of the surface area of an underground mine the mine will be covered over. This is but one example of the failure of OSM to recognize the inherent differences between surface mining and underground mining. The regulations are replete with such failures. The specific failures are enumerated in the comments submitted by the industry to OSM in the form of suggested changes to the proposed regulations. A few additional examples are given below to illustrate the distinct difference:

Example 1. The underground regulations on groundwater hydrology are essentially the same regulations as have been established for surface mining. Yet the groundwater problems in the case of surface mining are created by drawdown in the vicinity of the active pit as it moves across the reserve area. In the case of underground mining, water seeps into the mine through aquifers and surface waters sources. This seepage will exist as long as the mine remains active and under certain conditions exists even after mining has been completed. The techniques of dealing with the problems in the case of surface mining merely consists of backfilling and grading. In the case of deep mining the techniques would consist of preventive measures such as subsidence control, treatment and sealing.

Example 2. Both surface mining regulations and underground mining regulations require return to approximate original contour. Coal mining generates millions of cubic yards of refuse materials. In the case of surface mining this material can be hauled back to the pit and covered under the spoil. However, in underground mining returning refuse to the underground workings is impractical and can create a significant health and safety problem. The refuse must be disposed of on the surface and covered to prevent surface water pollution. The result is a refuse pile that will either fill a valley or create a hill. The compaction and layering requirements double the size of the refuse pile.

Example 3. Both surface mining regulations and underground mining regulations require compliance with prime farmland provisions. Surface facilities for underground mines affect very little surface area when compared to surface mines. The area affected will remain in use for the life of the mine - 20, 40 and even 60 years. The merits of requiring removal and storage of topsoil and subsoils to reclaim such areas will increase the affected area and is of questionable value.

Example 4. Both surface mining regulations and underground mining regulations require that markers be posted on the surface delineating the permit boundaries. Control of the surface estate makes this requirement less of a problem for surface mines than it will be for deep miners who do not acquire surface rights.

Not only should these types of differences be addressed in the draft EIS, but the impacts that the proposed regulations would have on underground operations must be adequately discussed. Failure to properly analyze the regulations in technical terms has compounded the failure of the draft EIS to adequately analyze the environmental impacts. The entire treatment of the underground mining issue--from regulation to EIS--displays OSM's failure to fulfill the mandate of the Act to consider the distinct difference between underground and surface mining. The failure of the EIS to elucidate the differences further compounds the problem and shows concretely that the EIS is not truly an EIS within the letter or spirit of NEPA. That this draft EIS as written as an advocacy document fraught with bias and mistakes is nowhere more clearly evident than with respect to underground mining.

PART B: SUPPORTING ANALYSIS AND DATA

Section III: Analysis of Anticipated Impacts

Page BIII-1:
Air Quality

The EIS infers that EPA does not control fugitive dust adequately. Yet, EPA requires the application of best available control technology (BACT) for fugitive dust emissions. BACT is an emission limitation based on maximum degree of reduction for each pollutant which on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, is determined to be achievable and not greater than applicable new-source performance standards.

The draft EIS further fails to acknowledge the difficulty in measuring and charging to the operator, especially in the west, the fugitive dust emissions in the vicinity of the mine because in many areas the naturally occurring background levels exceed the standards. Yet, EPA recognizes this problem. EPA in its preamble to the PSD regulations (43 FR 26395) states "(a) accurately assessing the short-term ambient impact of fugitive dust is often not possible. EPA will continue its efforts to develop better short-term modeling techniques for fugitive dust."

Some specific comments regarding the air quality analysis are as follows: Requiring an operator to comply with standards that are already being exceeded because of nature is requiring the impossible of the operator. Furthermore, the failure to control naturally occuring levels would result in the operator not being able to acquire a permit, which in turn would cause the operation to cease. Yet the EIS does not address the impact from such an arbitrary and unjustified regulation. If the mines in the west are shut down on air quality grounds, from where will the coal to meet existing contracts come? In addition, what will the impact on the economy and energy balance be from such a substantial loss of coal production? Before an EIS can be considered adequate and the proposed air quality regulations promulgated, these questions must be answered.

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Page BIII-1, Paragraph 2:

The draft EIS states that "the major air quality impact from surface coal mining activities is an increase in total suspended particulates (primary fugitive dust) from increased topsoil and overburden handling, stockpiling, spreading activities required for reclamation, exposed areas and haul roads (U.S. Environmental Protection Agency , 1978; Axtell, 1978)."

This statement does not seem to be consistent with Table B8 on page BIII-4 or the statement on page A III-3 which concludes that "minor adverse impacts on air quality will result from from topsoil handling and storage requirements." We believe the EPA study cited on page BIII-1 raises

an issue which OSM has taken altogether too lightly. We would encourage OSM to take a closer look at this problem.

Page BIII-1, Paragraph 3:

No emission factors for NO_x produced by blasting are given or cited. The draft EIS narrative makes definitive statements without proof and without qualifying statements. Therefore, references to NO_x should be deleted from this paragraph unless the assertions and references of the paragraph can be proven by substantive studies. The state-of-the-art EIS analysis normally qualifies such statements in terms of scope, magnitude, duration probability and significance.

Page BIII-1 and -2, connecting paragraph:

The figure of 1750 tons/year should be clearly labeled as a generalized approximation; the reference from which it is taken makes clear that there is great variation from mine to mine. The statement that standards may be exceeded "for some miles downwind" is far too subjective to be used in this context, especially since in other EIS's on mining and reclamation plans it has been found that most of the dust falls out in the immediate vicinity. In fact, it is extremely unlikely that standards would be exceeded at downwind distances exceeding one to three kilometers from the mining activity.

Page BIII-2, 1st Sentence:

This sentence begins "If uncontrolled" and then goes on to justify regulations to control fugitive dust. However EPA's

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regulations do control fugitive dust and therefore the phrase "if uncontrolled" is not applicable and any regulations resulting from the supposed consequences of those uncontrolled emissions would have no basis in fact.

Page BIII-2, Paragraph 2:

Deposition of dust on plants is an insignificant impact and should not merit comment in a general document such as this. Moreover, OSM does not support its claim that fugitive dust significantly affects plant communities.

Page BIII-2, 3rd Full Paragraph:

The air quality review required by OSM is not as simple as this paragraph indicates. The paragraph states that "the necessary emission rates and models have been developed." This an overstated, oversimplified statement. The references cited state clearly that the emission rates are not completely general. EPA acknowledges that available models are inadequate--"...a widely applicable model for routinely estimating particulate concentrations attributable to fugitive sources is not available." ("Guideline on Air Quality Models," EPA-450/2-78-027, OAQPS No. 1.2-080, April 1978, page 26.) In addition, reference USEPA 1978c is a "Survey of Fugitive Dust from Coal Mines." This survey was just that, a survey. It was not a long-term, well developed study from which emission factors were developed. For example, "sampling periods were only about one hour" (see page 1, U.S. EPA, 1978c,d). The

expected variation in emission rates for an operation during different time periods at the same mine is about 60% of the mean value. This (60%) is much lower than the variation in an operations emission rate for different mines (see page 3 of U.S. EPA, 1978c,d).

While there is obvious weakness in the emission factors, the modeling is even weaker. To again cite reference EPA 1978 (see page 4 U.S. EPA, 1978 c,d):

> Current dispersion models may not be adequate because of some features usually associated with the mine's rugged terrain, sources in pits or at ground level, wind speed - related emission rates, wind channeling, and poorly defined source locations. Further development may be required in this area also.

Therefore, it is inappropriate to draw general, sweeping conclusions from available emission rates and models.

Page BIII, 5th Full Paragraph:

This paragraph states: "...Where the regulatory authority determines that the application of fugitive dust control measures listed is insufficient to achieve and maintain applicable Federal and State air quality standards, the regulatory authority may require such additional measures and practices as necessary to assure compliance with all applicable air quality standards. Control techniques are available to provide the degree of reduction in dust emissions required to comply with applicable Federal and State air quality standards (U.S. Environmental Protection Agency, 1976d; 1978b)."

This requirement is redundant since EPA under its PSD regulations controls fugitive dust by requiring BACT. The inclusion of such a provision in the regulations and addressed by the draft EIS is an indication that OSM has either ignored the requirement under the Act for OSM to consider the proposed action in the context of other agency programs and responsibility, or the regulations are a blatant attempt to usurp EPA.

Page BIII-4-Table B3:

This table lists the impact of the regulations on air resources protection. Under the column "Effect of Impact" the word beneficial is used after four of the five activities. The word beneficial may relate only to air quality and not to the overall quality of the human environment that the activity may cause. That is to say some of the activities may cause economic problems that would result in less production and therefore not a benefit. Accordingly, the table seems to be of very limited value.

Page BIII-3 Paragraph 2, line 3:

While increased topsoiling and overburden handling are mentioned here, the draft EIS fails to take into account the greatly increased number of acres that will be disturbed by topsoil handling, stockpiling, subsoil handling, diversion ditching, etc., required by the new regulations, all of which

will have the potential of contributing to more particulates to the atmosphere. This will have an obvious adverse effect on the fugitive dust situation. This impact of the proposed regulations is not emphasized strongly enough in this section.

Page BIII-5, Paragraph 2:
Topography and Geology

In this paragraph "invariably" should be changed to "may". "Invariably" implies that the effects of the mining of coal on the earth's surface and overburden are always and only adverse. With the steady improvement of reclamation techniques, the effects of the mining of coal on the earth's surface and overburden are becoming less adverse and even negligible. Some changes in the earth's surface may be beneficial in that more diversified habitats are created thereby increasing wildlife populations.

Pages BIII-12 to BIII-15:
Alluvial Valley Floors

This discussion is much broader than "the topic of" alluvial valley floors and actually encompasses the more general subject of the "essential hydrologic functions". The statement in the first paragraph on page BIII-13 which concludes that water impoundments and stream diversions are adverse impacts on the topography is not always true. If such facilities are designed so that they are esthetically pleasing they will not be considered to be an adverse impact by the average citizen. Neither should such structures pose a threat to geologic materials of educational or scientific interest as is indicated in the next paragraph because other sections of the proposed regulations are designed to protect these interests. The real potential problems with impoundments and stream diversions occur in the form of the potential air, water and noise pollution during construction and restoration of these areas; the additional areas of disturbance that will be required on which to construct these areas; the wildlife and plant life that will be affected as the result of the construction and restoration activities; and the socioeconomic impact of the construction, maintenance and restoration of the facilities.

Page BIII-15:
Cessation of Operations

This discussion addresses the long term environmental effects of these regulations, but it fails to discuss the short-term evironmental effects all of which will be adverse, i.e. air, water and noise pollution, disruption of plant and animal life, and adverse socioeconomic impact. The adverse socioeconomic impacts will be particularly serious for those mines which do not possess more than a few years of reserve life. The cost escalations necessary to provide the funding of the restoration following cessation of operations could cause increases in utility rates.

Page BIII-16:
Permits

The permit application regulations will have much broader impact than is recognized here. The system will require the expenditure of much more time and money, months and even years in advance of mining to complete the detailed engineering required. It will also result in longer lead time and increase the prospects for delays in the development of mine reserves, as well as restricting the flexibility of the operator once the permit has been issued. The cessation, suspension, and revocation provisions also add risk and uncertainty to mining operations. The prolonged and all encompassing and rigid bonding provisions also deserve consideration. All of these factors combined may be viewed by environmentalists as beneficial, but to the consumer they represent increased, in some cases substantial, costs. The short term socioeconomic impacts of the permit provisions will be adverse.

Page BIII-17, Paragraph 3:

The draft EIS accurately states the potential for reduced soil productivity following mining. However, reclamation techniques in use today have largely eliminated the stated abuses of the past. The draft EIS discussion does not recognize the goal and realities of reclamation today.

BIII-23, Paragraph 1:

The statement, "Restoration of the subsoil as well as the topsoil is essential if crop and forage yields of reconstructed soils are to achieve 90 percent productivity as compared to reference areas" is undocumented. It also contradicts the last sentence of paragraph 3 of the same page: "Some restored areas will have higher productive capacity where high quality overburden is substituted for topsoil."

Page BIII-22 to 24:
Topsoil and Overburden Handling

This section ignores the potential short-term adverse impact topsoil handling poses to air, water and noise pollution, plant and wildlife, and socioeconomics. The topsoil handling activity will obviously generate fugitive dust and, as is noted on Page BIII-1, OSM classified fugitive dust as a major impact on air quality. The topsoil removal, stockpiling and replacement sequence could also result in more acres of denuded ground being exposed to wind and water erosion at any given time which could contribute to air ans water pollution. It could also result in more total acres being affected, i.e., topsoil storage areas and topsoil hauling roads. More disturbed areas mean more adverse consequences to plants and animals. Rehandling stockpiled topsoil which has become stable will create a second round of adverse environmental consequences to the air, water and wildlife.

Perhaps the major adverse environmental impact is the socioeconomic treatment of the topsoil handling provisions. The Regulatory Analysis (RA) which is referenced on Page AII-9 only includes the so-called "discretionary" costs resulting from the

promulgation of the proposed regulations. Since topsoil handling is not addressed in the RA, OSM obviously does not consider this cost to be "discretionary". Regardless of whether or not topsoil handling costs are "discretionary", when compared with the cost of all of the issues listed on pages 49 to 51 of the RA, the topsoil handling cost is several orders of magnitude greater.

Page BIII-23, Paragraph 5:

We believe that regulations will not minimize this compaction. In fact, the regulatory requirement for the separate handling of A and B horizons in order that they can be replaced in their original sequence will effectively increase the degree of compaction. This will thereby adversely affect the root penetration and water infiltration of the soil profile.

Page BIII-27:
Roads and Other Facilities

This discussion should include consideration of the potential adverse effects of upgrading non-conforming structures and the short-term adverse effects of removal of roads.

BIII-27 to 30:
Prime Farmland

The discussion is devoted entirely to the environmental benefits to be realized from the proposed regulations. However it is important that these benefits be placed in proper perspective. In the first place, the benefits are long-term and not short term. Even if all surface mining on prime farmlands were halted immediately it would result in less than one hundredth of one percent more prime farmland available for agricultural purposes. Over a 10 year period it would result in less than a tenth of one percent difference in availability. Over a 100 year period, it would result in less than a one percent difference in availability. On the other hand, many of the short-term environmental effects of the prime farmland provisions will be adverse. For example, the subsoil handling activity will create air, water and noise pollution, disrupt the plant and animal wildlife and have socioeconomic impacts. Obviously the subsoil removal, stockpiling and replacement activities will generate air, water and noise pollution. Construction of topsoil storage areas and haul roads to such areas will affect additional acreage which will adversely affect wildlife and plant life and increase the potential for air and water pollution. The subsoiling operation may also tend to increase the extent of the area denuded at any one time and also the length of time it will remain denuded. This will in turn increase the potential for air and water pollution and adverse effects plants and wildlife. The cost of handling 3 feet of subsoil will be roughly 3 times the cost of handling one foot of topsoil. As has previously been noted, the cost of topsoil handling will exceed the total cost of all of the so-called

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"discretionary" costs identified in the RA by several orders of magnitude. These costs must be passed on to the consumer if the operator is to remain economically solvent. Therefore it can reasonably be concluded that on a regional bases there will be major adverse socioeconomic impacts.

Page BIII-29, Paragraph 3:

The reference to a negligible impact occurring should be changed to indicate that a major impact will occur. In addition, there may be numerous cases where the substitution of selected overburden materials for the B horizon will be desirable.

The areas in which selected overburden materials may be effectively substituted for the B horizon are more common that the EIS indicates. For example, prime farmland soils exist in the midwest which have overburden materials of glacial till more suitable for plant growth than the overlying B horizons. Ava, Bluford, and Wynoose are three such series and their distributions in the midwest are widespread. Characteristics of texture, cation exchange capacities, base saturation levels and pH of the unconsolidated overburden materials of these soils are more suitable for plant growth because of better root penetration, greater water holding capacity and better nutrient availability.

Page BIII-31 through BIII-83:

The discussion in this section of the draft EIS is divided into two parts. The two parts are (1) mining impacts on water resources and (2) the impact of the proposed regulations on water. The following discussion will address each part separately.

Our comments primarily focus on the areas of the impact discussion concerning the effects of mining on water. The three areas can be listed under the genre of the following:

- References;
- Impact discussion structure;
- Differentiation of regional problems.

References

Three different categories of references are evident in this section. The categories of references are:

1. References dated prior to and including 1975;
2. References dated since 1975;
3. Professional testimony and House of Representatives reports and debates.

References dated to and including 1975 are specific to Appalachia. Further, careful examination will reveal that the subject studies were centered on or near mining sites that were mined by a particular contour method known as conventional contour stripping. In "conventional contour stripping dozers and front-end loaders remove the overburden from the coal and cast it over the edge of the bench on the down slope." (Page BII-32)

This method of contour stripping is generally considered environmentally unacceptable. The method is unacceptable because the cast overburden yields high levels of sediment; the steepness of slopes make reclamation difficult if not impossible; the fresh rock surfaces are exposed to weathering, and possible toxic runoff; the spoil is subject to slipping and sliding because of an inherent instability; and the method of mining contributes to flooding and increased peak flows in streams during rain storms. The contribution to flooding and high peak flows is generally due to lack of vegetative cover and the steepness or length of the slopes. Indeed, the environmental damage caused by this mining method was the major impetus that led to the passage of strict mining laws in the Appalachian states. The conventional contour stripping method was prohibited by law in all states except Virginia as early as 1975. (Substantive Guidance for Environmental Impact Assessment 1977).

> "As practiced in 1975, mountaintop removal and haulback mining methods were environmentally sound. Conventional contour mining is practiced in only one state and accounts for an estimated seven (7) percent of total region output." (Evaluation of Current Surface Mining Overburden Handling Techniques and Reclamation Practices (U.S.B.M., July, 22)).

Thus, the impacts to water resources as presented in the draft EIS are based largely on an antiquated, generally prohibited form of contour mining. Although the possibility that the present day (since 1975) mining methods could produce similar magnitudes of environmental impacts exists, OSM's failure to consider the impacts of accepted and State-approved mining methods on the environment in terms of their scope, magnitude, duration, and significance has seriously flawed the EIS. The severity of the impacts as presented in the EIS are largely drawn from studies and articles which are not valid for today's state-of-the-art mining methods and which have not been valid for approximately three years.

For example, on page BIII-36 of the draft EIS in the discussion labeled (3) Regional Variations, (a) East, lines 4-6 read:

> "Typically, contour surface mining involves casting overburden over the downslope, contributing significantly to landslides and sediment movement into surface waters."

As has been shown, this statement is not true today. Casting overburden on the downslope is no longer typical--it has been banned. If casting overburden over the downslope is not done, then contour surface mining can no longer continue to significantly contribute to landslides and sediment movement into surface waters.

Those streams draining mining areas that have been found to yield large concentrations of sediment since the passage of

state laws probably drain land that contain a significant number of abandoned, pre-law, unreclaimed, mining sites. There has been no attempt in the draft EIS to distinguish between state-of-the-art mining and archaic, prohibited mining methods.

Differentiation of Regional Problems

Besides being based on questionable references, the water impacts due to mining in the general discussion are heavily slanted toward mining in Appalachia. Only nine paragraphs of approximately eight pages of discussion are directed to mining impacts in areas other than the east.

Such concentration in one area of the country is unacceptable for a programmatic EIS that is national in scope and only further serves to illustrate that the draft EIS is nothing more than an advocacy document justifying post hoc the decision to implement nationwide standards. The brief discussions of the other areas do not adequately address the impacts due to mining on the water resources of those areas. One reasonably concludes from the discussion either that the coverage in the text is inadequate or that the impacts on water resources in these areas are minimal. If the present draft is inadequate as written, then considerably more analysis and discussion of the impacts from the proposed regulations must be contained in the final EIS in order to comply with NEPA. If the impacts on water resources in these areas is minimal, then the question of whether or not the regulations would be of benefit to these areas is raised.

Impact Discussion Structure

The impact discussion as presented in this draft EIS is inadequate. The discussions are not only based in large part on outdated studies and articles, and slanted toward the eastern mining situation, but also do not indicate, explain, or relate individual impacts to the environmental systems in the regional mining areas. Impacts can be detrimental or beneficial. This document only enumerates detrimental impacts. However, even the detrimental impacts are only given a vague perspective. For example, the following is quoted from lines 17-23 of page BIII-39:

> "....as documented in numerous reports and studies surface mining activities may result in substantial disturbances to the hydrologic balance of both surface and ground water systems (Biesecker and George, 1966; Curtis, 1972 a, b, 1973 a, b, 1973a, 1974 Gilley and others 1977; Hardaway and others 1977 a,b; Plass 1973; Simpson 1977). Disturbances to both water quantity and quality may occur."

First examine the references:

- Biesecker and George 1966: This is an Appalachian reference. The data used to arrive at the conclusions for the study were collected prior to 1966. The mining method prevalent in Appalachia at the time of data collection is now outlawed. The reclamation requirements in Appalachia at the time of data collection were minimal. Indeed, it is from this period of time and earlier that so called "orphaned lands" came into being. Orphaned lands can be an environmental problem and SMCRA has made provisions for correcting or mitigating these problems. SMCRA intended, in our opinion, to have regulations promulgated on state-of-the-art mining, not past practices. This reference cannot reasonably support the quoted statement from the EIS because it is outdated and not relevant to the mining of today.
- Curtis, 1972 a,b, 1973a, 1974: These are Appalachian references, specifically eastern Kentucky references. Although it appears that these are four distinct studies, in reality these references represent two different aspects of a research effort reported in four different places. Further, the author had no intention of making definitive statements about the nature of impacts to the water regime of a strip mined area. The following critical review of these references illustrate the point:

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Curtis 1972a - "Chemical Changes in Streamflow Following Surface Mining in Eastern Kentucky..."

This paper describes general trends in chemical changes in streamflow during and following surface mining activities in Breathitt County, Kentucky.

Explanations for the water quality changes were not attempted. Iron and manganese levels exceeded the USPHS in some of the watersheds even before mining. (USPHS standards 1962.) The author himself made clear that this study could not be applied on a nationwide basis. He concludes:

> "Because this is a case-history study, our data and interpretations cannot be applied to all surface mined areas. However, many of the findings discussed should be applicable to much of the coal producing lands throughout Appalachia."

The study, as stated, cannot be applied to all surface mined areas. However, even if the study is representative of Appalachia in terms of the magnitude of potential concentration such as increases in dissolved solids, pH and specific conductivity, then the background or baseline concentrations of water quality parameters should also be applicable--most importantly, the pre-mining manganese concentrations reported for the study that exceed the USPHS 1962 water quality standards. The mining method and control technology used during the course of the study was conventional contour stripping. As previously

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noted, for the most part, this method of mining is no longer used by the industry.

Water quality changes can be expected to occur during any land disturbing activity; however, the magnitude of the changes are often directly attributable to operating practices. In the Curtis study, method mining practices were not discussed; and, mining utilized while this study was in progress is no longer practiced. It is not clear nor certain that the magnitude of the water quality changes described in the study would occur if the watershed were mined according to present practices.

Curtis 1972(b) - "Strip Mining Increases Flood Potential of Mountain Watersheds."

This paper is a discussion of the flow characteristics of streams draining six subwatersheds in Breathitt County, Kentucky. The assumption of the paper is that the flow in unmined watersheds is representative of the flow that could be expected in the mined watersheds if they were undisturbed. However, as the author states, there was very little baseline data. The baseline data that was available was not analyzed statistically to determine if the flow for one stream could be accurately related to one of the other streams in the study. "T" tests were performed to identify a significant difference between the two streams, not to adjust streamflow for a particular set of streams.

The USGS will attempt to estimate stream flow on an ungaged stream only if a gaged stream of similar physical characteristics is nearby and the flow record of the gaged stream is substantial.

The author states: "...The study had some limitations because we did not have an adequate pretreatment period of stream flow measurement."

Curtis 1973(a) - "Effects of Strip Mining on the Hydrology of Small Mountain Watersheds in Appalachia."

This paper is a reworking of the author's 1972(a) and (b) papers as referenced in the EIS.

The paper is based on the same data and contains the same flaws as the other papers, including:

a. inadequate baseline date,

b. lack of statistical examination of the flow characteristics between the mined and unmined streams used as comparisons.

This paper offers no conclusions but merely discusses preliminary results based on inconclusive and scanty data. The author acknowledges this by stating:

> "As this study continues, the preliminary results presented in this paper will either be substantiated or refuted."

* * *

> "In watershed experiments,...to report more than general trends with only one or two years of data would be presumptuous."

- Gilley and others:

  This reference is specific for western North Dakota. The data are not representative of other western states because those variables that contribute to erosion, such precipitation amount, storm frequency and intensity, overburden and soils characteristics differ markedly throughout the west.

- Hardaway and others 1977 a,b:

  These two references should hardly be used as documentation for the quoted passage. These papers are, in plain terms, conjecture as far as mining impacts to alluvial valley are concerned. Alluvial valleys have not been widely mined in the west. No documentation of what actually occurs when an alluvial valley in the west is mined exists.

- Plass 1973: From the citation in the text it is not clear whether the EIS authors are referring to Plass 1975 a or b as listed in Section VI: References of the EIS. In either case, the citation is specific for Appalachia and the 1975b citation is specific for four small West Virginia watersheds.

- Simpson, 1977: This citation is specific for West Virginia and is based solely on a short tour of West Virginia surface mining operations in 1977. The report is qualitative by necessity of the working conditions of the tour, and is hardly worth citing as support for a nationwide programmatic EIS.

Finally, the quoted statements use the word "may" in describing impacts to the hydrologic balance. This is commendable since OSM obviously has recognized that these impacts do not necessarily happen as a matter of course. Unfortunately, OSM has failed to present the situation as a full disclosure document should. This failure is due to a lack of perspective resulting from using only regional studies or papers that are largely qualitative in nature, outdated, or present merely opinions. Further, as is shown by the critical review of the Curtis references, the EIS authors have misinterpreted and misconstrued the conclusions and conditions of the reported studies. In addition, because OSM has not attempted to accurately analyze impacts in the draft EIS in state-of-the-art terms of magnitude, scope, duration, and significance, the document is not a reasonable environmental impact assessment upon which responsible decisions can be made.

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The analysis of the impact of the subject regulations on water resources is also inadequate. The draft EIS has ignored Congress' finding that "...the requirements of this Act is an appropriate and necessary means to minimize so far as practicable (emphasis added) the adverse social, economic, and environmental effects of...mining operations....". The regulations and the draft EIS have far exceeded the first purpose of the Act as stated in Sec. 102 of the Act to "...establish a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations...."

The summary of the preamble to the regulations states that the proposed rules are intended to strike a balance between protection of the environment and agricultural productivity and the Nation's need for coal as an essential source of energy. However, the regulations and the EIS itself are replete with absolute words such as "preserve" and "eliminate." The tone and thrust of the EIS reflects the regulations in its assertions that the impacts of the regulations are all "beneficial," for water resources. However, this assertion is not true. For example the emphasis of the impacts of Section 816.38, entitled Roads and Associated Structures asserts that the beneficial impacts will be minor to major depending upon the coal mining region. The major benefit of the regulations are supposed to occur in regions of high annual precipitation in rolling or steep terrain in the east and midwest. However, in the east and midwest there are three distinct categories of roads associated with mining operations. The categories are:

- Haul roads;
- Access roads; and
- Limited access roads

The limited acess road is infrequently used. Its use is usually limited to periodic maintenance checks of electric substations and pump stations or the like. These roads are normally not more than two wheel ruts across a field or up a slope. The environmental damage caused by such roads is minimal. However, the regulations would require elaborate construction methods for such roads. Road construction would cause environmental impacts that are orders of magnitude greater than is now commonly experienced. The impacts would be caused by relatively major clearing and grubbing operations, major earth moving activities, and finish with a large road surface unprotected from erosion.

Thus, the failure of OSM to more thoroughly consider regional effects of these proposed regulations or to more thoroughly steep itself in coal mining practices has resulted in a regulation that will increase, perhaps significantly increase, adverse environmental impacts on a site-by-site basis. The cumulative impacts regionally, as well as nationally, will be significant.

Although the discussion concerning roads and associated structures according to the introduction of the EIS is supposed to be a substantive discussion and analysis of the topic, the subject narrative obviously is not substantive.

The rest of the narratives evidence the same lack of substantive and analytical content. An impact evaluation based on outdated information, misinterpretation and misunderstandings cannot begin to properly and objectively assess the effects to even a simple system, let alone the complex human environment in relation to surface coal mining.

The impact assessment contained in the EIS does not give perspective to the impacts. The different impact narratives do make judgments of significance in terms of negligible, minor, major and beneficial. However, the narratives do not exhibit evidence of consideration of other judgment factors such as scope, duration, and probability. Impact assessment is, in the final analysis, a subjective judgment, yet without consideration of the scope, duration, and probability of an impact as well as significance, the balance between environment and need, recognized by rational men and mandated by Congress, cannot be achieved.

The following comments, aimed at specific sections, supply examples of the persepctives missing in the EIS analysis.

Page BIII-62:
Buffer Zone

In the eastern regions most, if not all states have established the buffer zone principle in their state reclamation laws and since a small flexible operation can more easily move around such buffer zones it is technologically feasible to comply. However, in the midwest and west application of the stream buffer zone principles has not been widely adopted by the states, in part because it has not been deemed necessary, but also in part because it is not technologically feasible in many cases for large operators. Since it is concluded here that the impact of buffer areas is only of minor beneficial impact on water resources, consideration should be given to giving the midwest and western states more laditude in this area.

Page BIII-68:
Reclamation Requirements

Most states presently require concurrent or contemporaneous reclamation and in view of the topsoil and subsoil handling requirements, it is difficult to believe reclamation requirements can be accomplished as rapidly under the proposed regulations as it is presently being accomplished. Therefore OSM's conclusion that the proposed regulations will significantly decrease sediment is subject to question.

Page BIII-79 Part 823:
Prime Farmland

For the same reasons expressed above, the conclusion that the environmental impact on water resources will be beneficial is questionable, at least over the short term.

Page BIII-45a:

We agree that the practice of replacing the topsoil will often reduce the potential for exposing acid-producing material and reduce the time frame required to establish a new soil profile; and both of these factors will reduce the long-term potential for water pollution. However, topsoil handling will expose additional areas to erosion, and will result in the exposure of larger areas for longer periods. While OSM seems to recognize this fact, it has determined the adverse impacts will be minor. We have trouble distinguishing between the minor impacts and the "profound" effects described on page BIII-36. It would seem to us that each situation would produce a different result and that there may indeed be areas where topsoil handling offers no real advantage and may in fact increase the adverse hydrologic impacts.

Page BIII-84:
Vegetation

Paragraph 1, line 1. This is an over-dramatization and infers that prior to these regulations, all vegetative productivity of the soil was destroyed.

Paragraph 2, line 10. The revegetation effort never did solely rely upon natural succession as this infers. However, natural plant succession has and always will play a very important role in revegetation. This reference to the reliance on natural succession should be omitted.

Page BIII-85, Table B12:

Table B12 refers to every activity as having a "major" chance of impact. This is highly questionable. For example, postmining land use is considered a major beneficial impact but there is a contradiction when discussing improvement to the soil by species diversity. Although SMCRA is fairly clear and broad on the postmining land use concept, the regulations are narrow and attempt to impose only "native species" upon the operator. If one is attempting to measure productivity, it is not realistic to require native species in all instances. The designation of lands unsuitable is still another example. It does not even consider reforestation and reclamation.

Page BIII-87:

Paragraph 1, line 2. Threatened and endangered species are fully protected under their own act. These regulations offer no further protection although critical habitats may be readily identified.

Paragraph 1, line 5. Disturbances during mining will not necessarily be reduced during mining. In fact, new requirements (i.e. topsoil handling) may increase the annual affected acreage and increase disturbance in the form of noise, dust, and sediment ahead of mining.

Paragraph 2, line 6. Omit "relatively level". Some of the best wildlife habitat in the midwest is now associated with pre-law areas that are anything but "level".

Paragraph 2, line 11. Omit "of relatively short duration". The effect of the elimination of these areas mentioned will not be reduced over time.

Page BIII-93, Paragraph 1:

The text refers to "...practice of substituting phenotypically unadapted grasses for native species." The word "phenotypically" is used incorrectly here and should be deleted. Phenotype represents the visual appearance of an organism.

Page BIII-93, Last Paragraph:

The last paragraph should be omitted. The Endangered Species Act already provides full protection and this argument cannot be used to support the draft EIS.

Page BIII-94:
Aquatic Life

While the regulations provide added protection for aquatic life, the draft EIS again fails to recognize the adverse impact resulting from disturbance to comply with topsoil handling, diversion ditching, topsoil stockpiling, etc., which may adversely affect aquatic life due to increased chance of and more frequent possible sediment problems and habitat disruption.

Page BIII-99:
Human Environment-General Comment

The draft EIS assumes that if the mining companies function to the extent of the rules and regulations, then the impact is beneficial for everybody, including the mining companies and the purchasers and consumers of their products. The draft EIS also assumes that the impact on the rules and regulations is positive for the environment. The mining companies (particularly the small ones) will have it difficult at first, but will be able to adapt. However, the EIS does not address any of the likely significant impacts the proposed regulations will have on small operators and the impacts that will occur to local communities should a number of these small operators go out of business, as is likely to be the case.

The human environment section of the EIS is difficult, if not impossible to comment on, especially since it is dealt with in very general and meaningless terms. The generalities superficially sound good, but have no substantive backing or facts in order to justify even these generalities.

The draft EIS fails to address the socioeconomic imputs of the proposed regulations. Yet socioeconomic impacts greatly affect the human environment and, therefore, under NEPA must be adequately addressed in the EIS. Indeed, courts have so held However, this EIS has ignored this area. Although OSM has prepared a draft Regulatory Analysis, there are implied "disclaimers" that OSM really does not have to prepare the document. Furthermore, as presently written, the RA is totally inadequate and provides no meaningful analysis. Therefore, any attempt to substitute the RA for the analysis required in the EIS is totally unacceptable.

Finally, the EIS also fails to recognize and address the impacts that will stem from mines closing or coal costs rising such that less coal is available or is burned. The result would be the substitution of another fuel, such as fuel oil. However, the effects on the economy and inflation from such a fuel substitution have been omitted.

Page BIII-99:
Cultural Resource

The basic support document appears to be the 1966 National Historic Preservation Act (N.H.P.A.) and related National Register of Historic Places listing. The EIS states that the impacts are beneficial because more stringent criteria for protecting those resources than is required for compliance with Section 106 of the N.H.P.A. have been established. However, no discussion as to why more stringent criteria are necessary has been presented.

The individual states must implement their own review programs. Coordination with more comprehensive and encompassing regional and national programs is not addressed or necessarily demanded. This is more approriately done at the state or local level using factors unique to the state or locality. If unsuitable designation is granted, then sound realistic management action should be demanded and carried out to support the decision.

Page BIII-101:

The term land use has often been used out of context throughout the legislative history of the Act. This is especially evident when addressing the related planning process in deriving postmining land use. The planning process sought for determining post-mine land use can more accurately be described as that of a resource planning analysis. Elements such as land capability, coal, water, soil revegetation, etc. are all factors to be considered in deriving effective postmining land use. These are natural resource elements. The stressing of lands unsuitable for mining also relates to various resource elements which are identified and weighted in a management decision making process to determine need and trade-off in meeting social demand pressures of total resource management.

Land use is basically a management function. The choice of uses which may have potential is dictated by the resource capability to provide or support such uses. The natural resources available in a given land unit coupled with social/economic demands provide the alternative management actions

which are available at a point in the time (highest-best use) or over a long range period of time (land use capability).

Page BIII-109:
Esthetics

Various examples pointed out in this discussion all lend merit to achieving positive postmining visual impacts. However, they have been presented in a subjective manner. Reference should be made to established and acceptable visual resource management systems as exist in Forest Service, B.L.M. and other federal resource management agencies. Such systems approach inventory of the visual landscape as well as impact derived from a management action in a scientific and comprehensible manner. Establishing analysis criteria and ground rules for esthetics considerations would seem most important in addressing this otherwise highly subjective resource element.

Page BIII-117:
Transportation Systems

The discussion of the transportation systems in the EIS is inadequate.

The EIS does not discuss in detail the impacts of the proposed regulations on roads, railroads, conveyors and large transportation systems. The discussion that is present in the EIS is heavily weighted to roads and the fact that on-site roads are supposedly low-quality and remain after mining has ceased and that public roads are heavily utilized by haul trucks.

Roads on mine sites are constructed to meet the requirements of traffic and tonnage hauled over them. We question the statement that these roads are of low quality. Simplistically, it is not prudent to underdesign roads that must bear the wear and tear of thousands of vehicle ton-miles per day. Underdesigned roads would fail and cause unnecessary delays and expense to the mining operation.

Secondly, trucks do make use of public roads. However, this practice is only predominant in the Appalachian region. In the Appalachian region the public roads are cared for and built by the state or country or local municipality. In states such as West Virginia, coal companies are prohibited by law from making improvements to public roads.

In addition, the draft EIS discussion does not address the impacts to the other regions of the country. One can only assume that this is because as Table B 16 implies, the impacts to the rest of the country and indeed Appalachia are minor in every instance cited.

The regulations would result in substantial investment of time and money by coal companies to meet the proposed standards. The EIS and the discussion of the impacts are heavily slanted toward the eastern mining situation and are stated to be of minor benefit nationally. The cost benefit ratio of the regulations to the impacts prevented or mitigated does not supply the environmental balance mandated by NEPA and SMCRA.

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Page BIII-122:
Safety

According to the EIS, protection of the general public and wildlife, in general, and of structures is to be broadly afforded under SMCRA. Safety at mines when mine personnel are involved falls under the Federal Mine Safety and Health Act administered by MSHA. Although this distinction is made clear in several instances, the EIS nevertheless attempts to justify a number of the regulations by citing the beneficial effects of the impact upon miner safety, which have no relationship to the regulations.

Page BIII-122:
Auger Mining

The discussion of auger mining on page BIII-122 focuses on the safety hazards associated with exposed auger holes from abandoned mines. However, the regulatory requirement in Section 819.11 deals with sealing active mine auger holes to prevent environmental harm, and has nothing to do with safety hazards from abandoned auger holes. In fact, MSHA and USGS regulations already require auger holes in active mines to be sealed. Further, the Act's provision for sealing auger holes only concerns environmental conditions. The beneficial impact from a safety standpoint on page BIII-124 is erroneous.

Page BIII-123:

Although there is considerable discussion on page BIII-123 of the EIS concerning the technical and administrative requirements related to blasting, there is no reference to the impacts related to the requirement in Section 816.61(c) for training of blasters. The EIS ignores how its regulations impact upon MSHA regulations concerning persons who use or handle explosives (30 CFR 77.1303). Nor does OSM discuss how its blasting regulations impact from a technical basis on those of MSHA's.

Page BIII-126:

The entire emphasis in the discussion on page BIII-126 is safety, with particular emphasis on improperly abandoned mine openings. Section 816.13-816.15, however, deals with active mines, and the casing and sealing requirements are related primarily to environmental protection. Inasmuch as MSHA presently requires at 30 CFR 75.1711 the sealing of openings of coal mines, the beneficial safety effects cited are misleading.

Page BIII-127:

The primary justification used on page BIII-127 for the construction of roads is the protection of miners which is the responsibility of MSHA. The Act's road provision, however, concerns environmental protection. Secondarily, the EIS discusses public safety if that road is allowed to remain open after the mine closes. Since roads are required in most cases to be closed after mining, the beneficial safety impact is negligible.

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Page BIII-129:
Waste Handling/Dams and Impoundments

Despite the fact that MSHA presently has extensive regulations covering waste piles and impoundments (30 CFR 77.214-77. 216-5), OSM has published further regulations covering the same subject. No effort is made in the EIS to discuss the impacts between MSHA and OSM regulations. Instead, Buffalo Creek is cited as the justification for the regulations, which was also the underlying justification for the MSHA regulations.

BIII-132:
Socioeconomic Impacts

Employment increases will occur in governmental areas as much or perhaps more so than in the coal industry due to expansion of existing and formation of new regulatory agencies. An increase in bureaucracy will be a negative impact to some citizens.

Employment within the coal industry may actually decrease if small-and medium-size operations cannot meet the stricter environmental control requirements.

The major problem with the "boomtown syndrome" has not necessarily been due to lack of knowledge of future mining activities and lead-time to plan, but instead securing adequate capital and governmental matching money to construct service facility expansion needs. Lack of a professional planning ability or understanding has also been a major problem.

SUPPORTING ANALYSIS AND DATA

Section IV: Alternatives to the Proposal

Pages BIV-15 and BIV-16:
Fugitive Dust

Reference is made to a PEDCO study so widely criticized by even air regulatory authorities that it is not used and is considered useless. With regard to the reference to air pollution from mines in Southwestern Wyoming, apparently the EIS drafting team is totally unfamilar with the EPA state air plan for Wyoming. The Twin Creek and Haystack mines are in an air quality control region.

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SUPPORTING ANALYSIS AND DATA

Section VI: References

Pages BVI-1:
References

Many statements are made throughout the text without documentation (Section (d), pages BII-55 through BII-60). In some cases, references are cited where they are not needed (pages BIII-127, Paragraph 3, 2d Sentence: "Under Sections 816.31-816.38, 817.31-817.38, roads...must be engineered to provide for proper grade alignment and design, compaction requirements, slope limitations and embankment safety factors (Kaufman, 1977; Parker, 1975)". Some references are cited in text but not listed in bibliography (pages BIV-15 through 17, Section D-3: Fugitive Dust Controls).

AB-143

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Joint NCA/AMC Committee
on
Surface Mining Regulations

NATIONAL COAL ASSOCIATION
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Coal Building, 1130-17th St., N.W., Washington, D.C. 20036

November 27, 1978

Mr. Walter N. Heine
Director
Office of Surface Mining
Reclamation and Enforcement
U. S. Department of Interior
Washington, D.C. 20240

Dear Mr. Heine:

Enclosed please find the comments of the Joint National Coal Association/American Mining Congress Committee on Surface Mining Regulations regarding the proposed regulations covering the permanent program regulatory procedures for coal surface mining and reclamation operations, issued pursuant to Section 501(b) of the Surface Mining Control and Reclamation Act of 1977, as published in the Federal Register of September 18, 1978 (43 FR 41662, et seq.). The enclosed comments are submitted in accordance with instructions contained in the proposed regulations, as subsequently modified by a notice appearing in the Federal Register for October 27, 1978 (43 FR 50407).

The separate comments of the Joint NCA/AMC Committee regarding the Draft Regulatory Analysis and the Draft Environmental Impact Statement are supplied under separate cover. It is requested that the enclosed comments on the proposed regulations, the separate comments on the Draft Regulatory Analysis, the separate comments on the Draft Environment Impact Statement, and the testimony presented by Joint Committee witnesses at all hearings on the regulations (Washington, Charleston, W.Va., Knoxville, Indianapolis, Kansas City, Mo., and Denver) be incorporated by reference and considered as a part of these comments.

Note: This letter was not directed to the Environmental Impact Statement specifically but did contain the following comment on the EIS. To reduce volume, only the portions of the letter pertinent to the EIS are printed.

Continued. . . .

CONCLUSION

We have discussed the deficiencies of the Draft Regulatory Analysis and the Draft EIS, including the fact that a draft EIS does not fulfill the requirements of NEPA, in separate submittals and letters of transmittal dated this date. Those comments are incorporated herein by reference and are made a part hereof.

In light of OSM's failure to properly develop an EIS, to develop a regulatory analysis in accordance with E.O. 12044 and the President's anti-inflation directives, and in light of the deficiencies in the proposed regulations as set forth above and in the enclosed, as well as the severe inadequacy of time to analyze and develop the fullest and most meaningful comments on these proposed regulations, we respectfully and urgently suggest that OSM take the following actions:

1. Suspend the comment period on the proposed permanent regulations;
2. Extend the comment period on the Draft EIS for at least 30 days;
3. Finalize the EIS and republish it;
4. Republish a revised DRA which comprehensively analyzes the entire regulatory package in accordance with E.O. 12044;
5. Revise and republish the proposed permanent program regulations appropriately utilizing the decision-making tools of the final EIS and RA, and reopens the comment period thereon for at least 60 days after republication.

In closing, we are confident that if the Joint Committee's comments on the proposed permanent regulations are adopted by OSM, they will be an important aid to OSM and Departmental decision-makers in achieving a permanent regulatory program that can be effective for all parties -- the industry, the States, OSM and the public. We urge that our comments be thoroughly considered, and, as always, we are prepared to discuss any questions you may have about them at your convenience.

Sincerely yours,

William E Hynan
William E. Hynan
Senior Vice President
National Coal Association

Charles F. Cook
Charles F. Cook
Vice President
American Mining Congress

Enclosures

AB-144

OLD BEN COAL COMPANY

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Nov 25 5 20 PM '78
DEPT. [illegible] R
OFFICE OF
SURFACE MINING

November 22, 1978

Office of Surface Mining
U. S. Department of the Interior
P. O. Box 7267
Benjamin Franklin Station
Washington, D.C. 20044

SUBJECT: Comments on Proposed Rules for the Permanent Regulatory Program

Dear Sirs:

Since the Proposed Rules for the Permanent Regulatory Program were published in the Federal Register on September 18, 1978, Old Ben Coal Company personnel have been studying the proposed program to evaluate the impact that they will have on our operations. The overall impression expressed by everyone is that this program will be very costly and yet seems to produce very little environmental benefit. A large volume of specific recommendations was generated, and through our close work with the NCA/AMC Joint Committee incorporated into the comments you have received from that group. We support and commend to your attention the recommendations and comments presented by the Joint Committee.

Unfortunately, even the most extreme modification of the individual paragraphs of this proposed regulation does not completely address the main shortcomming of the program. As stated previously, everyone here was struck by the high cost and low return of the program; this is the main weakness of the whole program. Throughout the entire program the maximum, or very near to it, is required. Paperwork requirements are enormous, performance standards crowd the barely possible so closely that the impossible is occassionally required, and yet the benefits are low because we are already doing so much. In this light the Environmental Impact Statement, which should evaluate the benefits, and the Regulatory Analysis, which should evaluate the costs, make interesting reading. As pointed out in the comments of the NCA/AMC Joint Committee on these two documents, each document is seriously biased in itself. While we also support the NCA/AMC comments on these documents, the important point in our view is the comparison of the two. The Environmental Impact Statement suggests that the benefits are enormous. The Regulatory Analysis suggests that the costs are slight. Thus, we find that the Office of Surface Mining believes that the cost-benefit ratio for this program is very high while our evaluation indicates that it is very low. Someone must be very wrong. We feel that our evaluation is more correct because in our evaluation we use a constant frame of reference. We are looking at the costs and the benefits in addition to the costs and benefits of the state programs that existed before August 1977. The Environmental Impact Statement, though it tabulates the state laws, seems to evaluate the environmental benefits compared to the period before the strong state reclamation laws. On the other hand, the Regulatory Analysis evaluates costs in terms of the costs over and above the existing state programs and the recently enacted initial regulatory program! Even then, costs for regulations that the Secretary considered absolutely required by law were not considered.

If the Office of Surface Mining really believes that the cost benefit ratio is so high, it is a wonder that the proposed program is not more onerous than it is. We recommend that a much more carefully done study of the incremental costs and benefits of every individual requirement, discressionary or not, be conducted. Then the regulations should be written so that the incremental costs are as near as possible to the incremental benefits. If portions of such regulations lie outside of the Secretary's discression, he should then request ammendment of the Act itself on the basis of the results of the study. Society does not benefit from regulations that cost more than they are worth.

Very truly yours,

Wayne Parke

E. Wayne Parke
General Manager-Surface Mines

EWP:bm

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OFFICE OF
SURFACE MINING
NOV 27

November 24, 1978

Office of Surface Mining
U.S. Department of the Interior
P.O. Box 7267
Benjamin Franklin Station
Washington, D.C. 20044

Subject: Proposed Rules for the Permanent Regulatory Program

Dear Sir,

We strongly recommend the following:

1. The comment period be extended an additional sixty days so that the extensive detailed proposed rules can be properly reviewed by industry and the public.
2. The present proposed rules will probably be extensively revised. After the proposed permanent rules are revised and published, there should be another public comment period before they become final.
3. The Environmental Impact Statement and the Regulatory Analysis should be completely re-done. They should take in account the following:
    a. Benefits and cost of the Interim Program by State.
    b. Benefits and cost of the Final Interim Program by State.

November 24, 1978

Office of Surface Mining
U.S. Department of the Interior

Subject: Proposed Rules for the Permanent Regulatory Program

Please note that the Interim Program has increased our mining cost at least $2.75 per ton. The present proposed Permanent Program will increase our mining cost at least an additional $3.00 per ton with practically no increase in environmental benefits, or safety improvement of the miners and the public.

Respectfully,

OLD BEN COAL COMPANY

Wayne Parke

E. Wayne Parke
General Manager - Surface Mines

EWP:tmg

Note: This letter was not directed to the Environmental Impact Statement specifically but did contain the preceding comment on the EIS. To reduce volume, only the portions of the letter pertinent to the EIS are printed.

PEABODY COAL COMPANY
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HARRISON LOESCH
VICE PRESIDENT
GOVERNMENT RELATIONS

AB-146

November 27, 1978

Mr. Walter N. Heine
Director, Office of
Surface Mining
U. S. Department of the Interior
Room 120, South Building
1951 Constitution Avenue
Washington, D. C. 20240

Dear Mr. Heine:

Enclosed herewith are the Peabody Coal Company comments on the Draft Environmental Impact Statement on the Permanent Regulatory Program issued by the Office of Surface Mining Reclamation and Enforcement on October 4, 1978. In addition to the material contained therein, Peabody adopts, approves and desires by reference to make a part of its own comments those provided to your Office by the Joint NCA/AMC Committee on Surface Mining Regulations, which were delivered to you today.

Again, we bring to your attention the fact that the excessive burden placed on the public, and particularly on members of the industry, by the necessity of commenting at once upon the Preamble, the proposed regulations, the Draft Regulatory Analysis and the Draft Environmental Impact Statement, has prevented a full and complete study and comment upon each of these items. We have nevertheless done our best to do justice, both to our Company and to your Office, in preparing the enclosure, and again express our appreciation for your Office's efforts to minimize as far as possible the insuperable problems imposed by these time frames.

Sincerely yours,

PEABODY COAL COMPANY

Harrison Loesch

Harrison Loesch
Vice President, Government
Relations

Enclosure

HL:dl

PEABODY COAL COMPANY

COMMENTS ON DRAFT ENVIRONMENTAL
STATEMENT

OSM PROPOSED PERMANENT REGULATORY PROGRAM

The following are the comments of Peabody Coal Company on the Draft Environmental Statement for the permanent regulatory program implementing Section 501(b) of the Surface Mining Control and Reclamation Act of 1977:

I. Timeliness of the EIS

Peabody submits that OSM has failed to meet the requirements of the National Environmental Policy Act (NEPA) in a timely manner. OSM has previously circulated what it termed "pre-proposed draft regulations" which failed to include an EIS of any kind. Those "pre-proposed draft regulations" constituted a "recommendation or report on proposals for major Federal action within the meaning of NEPA" and, therefore, required the inclusion of an EIS.

OSM has attempted to meet NEPA requirements by circulating a draft EIS shortly after publication of the proposed rules for the permanent regulatory program. Peabody submits that NEPA requires that a final EIS accompany any recommendation or report on proposals for major Federal action. The Supreme Court has so stated in the case of Aberdeen & Rockfish R. Co. v. SCRAP, 422 U.S. 289 (1975).

The lack of a final environmental impact statement substantially prejudices Peabody's ability to make informed comment on the proposed rules. Peabody submits that implementation of the proposed permanent rules should be postponed pending the completion of a final environmental impact statement. Otherwise, the timing of the final environmental impact statement will render it no more than an attempt to justify retroactively the decisions of the OSM regarding the content of the proposed regulations.

II. Format of the EIS

The draft EIS incorporates by reference the Preamble statement accompanying the publication of the proposed regulations. In this manner, OSM appears to be attempting to remedy any possible deficiencies within the draft EIS by adding some 133 pages of the Federal Register containing justifications for the content of the proposed final regulations and responses to comments to the "pre-proposed draft regulations."

OSM has made no attempt to edit, integrate or relate the Preamble statement into the body of the draft EIS. As a result, the complete EIS becomes an amalgamation of two totally separate documents which the reader must attempt to combine into one understandable instrument. Clearly, OSM has failed to produce the single, self-contained, understandable EIS called for by the Council on Environmental Quality Guidelines at 40 CFR, Section 1500.8(b). This failure alone renders the draft EIS inadequate. Furthermore, the incorporation of the Preamble statement, clearly an advocacy document, is another indication that OSM is not giving the EIS its proper role in the decision-making process.

III. Impacts on Human Environment

The advocacy character of the draft EIS is apparent in its failure to analyze fully all major adverse impacts of the proposed action. For example, the document glosses over impacts on the human environment, including socioeconomic impacts which are an integral part of any adequate EIS. Although not considered by OSM, at a very minimum, the regional impacts on certain portions of society will be significant, principally due to the yet undefined extent of compliance costs and mine closures. The point that closures of smaller mines will almost certainly occur as a result of the proposed regulations has been forcefully made most recently during the public hearings by state representatives, bond experts, bankers, and the smaller operators themselves. Yet, the draft EIS fails to discuss the adverse socioeconomic impacts stemming from these anticipated closures of numerous small operations, particularly in Appalachia and the Midwest. As a result of these closures, demographic changes in the size and location of mining operations will occur, a fact which is apparently inconsequential to OSM.

At one point, the EIS drafters must have recognized there would be some impact on small operators because there is an assumption that small operators of "marginal operations," can, in attempts to comply, join together and form cooperatives. Therefore, without admitting it, the draft EIS in effect says that if these small operators don't pool their efforts, they face closure as a result of the regulations. But, there is no discussion of the major adverse impacts on the human environment which would certainly occur in communities where these small operators are located if they don't form these cooperatives and there are a number of mine closings.

In its summary discussion of socioeconomic impacts, OSM obviously reaches the conclusion that economics can be neatly separated from environmental consequences, as it casually dismisses any real economic evaluation by stating "purely economic effects of the regulations is not a proper subject for this draft EIS." The public is then referred to the Draft Regulatory Analysis.

It is our position that economics cannot be separated from environmental considerations and a cost/benefit analysis is absolutely necessary to an adequate EIS covering the proposed permanent program. This position is supported by NEPA which makes reference to evaluation of economic considerations as agencies give appropriate consideration to environmental values. Further, existing Council on Environmental Quality Guidelines for Federal Agency Preparation of Environmental Impact Statements reemphasize the need for economic evaluation in several instances, including the need for "a systematic evaluation of reasonable alternative courses of action and their social, *economic*, and environmental consequences."

Among the economic evaluations missing from the draft EIS are (1) increases in governmental expenditures and consumer costs and their relationship to improvement of the environment and (2) the direct and indirect impacts the proposed regulations will have on the energy balance as it relates to potential mine closures and loss of mineable reserves.

IV. *Discussion of Alternatives*

The courts have held on numerous occasions that an EIS must discuss all reasonable alternatives to the proposed action. Additionally, the Council on Environmental Quality states that a "*rigorous* evaluation and objective evaluation of *all* reasonable alternative actions ... is essential." Furthermore, the agency must demonstrate a reasonable "balancing" of environmental and other considerations in its choice of a proposed action over alternatives. In fact, Section 102(f) of SMCRA requires a "balancing ... between protection of the environment ... and the Nation's need for coal as an essential source of energy ...."

Peabody submits that OSM's draft EIS does not discuss *all* reasonable alternatives, and those discussed are hardly done so in a rigorous manner. In particular, your attention is directed to the decision to use uniform national standards for application to all operations. There are at least two viable alternatives to this approach. For example, although the draft EIS rejects the alternative of analyzing conditions in the individual states having coal, it does so in summary and shallow form. Yet, allowing states to submit their own plans, tailored to their individual topography, climate and types of mining operations, is a very viable alternative and one certainly advocated by certain states. Further, another alternative to the chosen format would be different criteria and design standards for different regions of the country. Both a state-by-state or regional approach are reasonable alternatives which should have been analyzed and discussed in the draft EIS. They were not.

With regard to any attempts to consider balancing of "protection" and "needs," OSM makes no pretense in this area because it simply ignores the issue.

The alternatives section of the draft EIS lists the four alternatives as no action, guidelines, less stringent and more stringent regulations. The no action alternative is admittedly unrealistic, and the more stringent and less stringent alternatives are more matters of degree than real alternatives. The alternative of using guidelines instead of regulations is really the only bona fide alternative addressed, and it is not addressed in sufficient detail to adequately and fully compare it to the proposed regulations. It is Peabody's position that alternatives must be evaluated for each of the regulations or facts which are determined to have a major environmental impact.

V. Underground Mining

The draft EIS almost totally ignores the impacts the proposed permanent regulations would have on underground mining. This lack of treatment is evident by the fact that Section D of Part B, which describes coal mining operations and associated environmental impacts, contains 37 pages, of which one-half page is devoted to underground mining. Perhaps this indicates very little impact on the environment arising from underground operations, in which case most of the proposed underground regulations are not needed. In any case, nowhere has OSM provided an analysis of the impacts on these types of operations.

The absence of this analysis is in complete contravention of Section 516(a) of SMCRA which requires that in promulgating any rules and regulations affecting underground operations, "the Secretary shall consider the distinct difference between surface coal mining and underground mining." Since the impact of the proposed permanent regulations on underground mining operators could be more significant than on surface mining operators, the impact as well as the alternative means of regulations must be fully addressed in the EIS.

AB-150

PHILLIPS COAL COMPANY

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November 14, 1978

Office of Surface Mining
Department of Interior
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Washington, D. C. 20044

Dear Sirs:

Phillips Coal Company submits the following five comments on the draft environmental statement (draft EIS) on the permanent regulatory program implementing Section 501(b) of the Surface Mining Control and Reclamation Act of 1977.

(1) We believe the draft EIS has omitted one of the major impacts of OSM's decision to promulgate the proposed complex regulatory scheme: delay in implementation. Because OSM has selected the proposed system instead of a more simplified system giving states greater control, considerable conflict between OSM and the various states and industry has arisen. As a result of this conflict several lawsuits have been filed and several more can be anticipated. Resolution of these lawsuits has and will substantially delay implementation of permanent programs. This delay might be avoided or lessened with an alternative approach.

A second consequence of OSM's approach is that the commenting process has been significantly impaired. Though thousands of man-hours have been devoted to comment preparation there definitely has been insufficient time to adequately analyze the proposed regs. The EIS, as a decision making tool, should point out this problem and that it might be avoided if another approach was taken.

(2) The draft EIS does not adequately consider regional variation in environmental impacts. One of the omissions

is a discussion of the environmental impacts in the southern states. States such as Texas, Louisiana and Mississippi have conditions unlike the west, midwest and east and the coal mining industry in the south is unlike the industry in the other coal mining regions. The EIS should consider the uniqueness of the area and the uniqueness of the coal industry, which is almost exclusively a lignite industry.

(3) Phillips believes that OSM has not adequately addressed the alternative of regional or state-by-state performance standards. OSM has stated often that Congress wanted national standards, but certainly Congress did not intend to impose national standards where such standards would be inappropriate or where state or regional standards would be more appropriate. We recognize that there are a few regional distinctions in the proposed rules, but very few. We believe OSM should have considered a program designed around regional distinctions, and that this alternative should be discussed in the EIS.

(4) In discussing alternatives OSM has taken an all or nothing approach to each alternative. Possibly a combination general goals/specific standards alternative would offer the best program. We believe this alternative should be discussed. Such a discussion would require almost individual analysis of each regulation or group of regulations.

(5) The EIS does not correctly address the socio-economic impacts. If the proposed regulations are adopted significant coal will not be produced at all or will not be produced as soon as it otherwise would be produced. Some coal will be lost as a result of absolute prohibitions, some coal will be lost as a result of inability to mine and comply with one or more performance standard(s) and other coal will be lost because the cost of compliance with the regulations precludes economical extraction. Possibly the greatest loss, however, will be as a result of delays. Since permanent program implementation is behind schedule coal operators who plan to construct new coal mines in the next few years will postpone, if reasonably possible, any capital investment until the permanent program and applicable state programs have been approved. Also, the detailed information required in permit applications and the pre-application studies required will significantly

increase the leadtime needed to construct a coal mine. The EIS should address these issues and their adverse socio-economic impacts.

Thank you for considering our comments.

Sincerely,

W. A. Cunningham
Executive Vice-President

Sec.
700.5

Section 700.5 Definitions

Person - Delete the last phrase ["all governmental entities listed in Section 524 of the Act."]

JUSTIFICATION:

By including the reference to Section 524 of the Act, governmental entities are included, which is broader than the definitions contained in Section 701 of the Act for "person." The amendment may provide particular problems in and among various State agencies by providing legal standing that currently does not exist and was not intended to exist under PL-95-87.

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SOUTHEAST KANSAS REGIONAL PLANNING COMMISSION
Serving Allen, Bourbon, Cherokee, Crawford, Labette, Montgomery, Neosho, Wilson and Woodson Counties

OCT 2 3 26 PM '78
DEPT. OF INTERIOR
OFFICE OF SURFACE MINING

October 24, 1978

Office of Surface Mining
U.S. Department of Interior
P.O. Box 682, Benjamin Franklin Station
Washington, D.C. 20240

Re: Draft Environmental Statement on Permanent Regulatory Program Implementing Section 501(b) of the Surface Mining Control and Reclamation Act of 1977

Gentlemen:

The Southeast Kansas Regional Planning Commission has received the above-cited Draft Environmental Statement for review and comment through the State Division of Planning and Research of Kansas.

The Commission serves nine counties in the Southeast corner of the State, namely Allen, Bourbon, Cherokee, Crawford, Labette, Montgomery, Neosho, Wilson and Woodson Counties. All contain mining deposits in commercial quantities, primarily of coal and oil.

Many of the earlier coal strip mines in these counties had little, if any, reclamation procedures to ameliorate the effects of mining operations. Fortunately, Kansas Statutes effectively control reclamation procedures now at mine sites.

The Draft Environmental Statement appears to cover adequately the environmental impact in this region of proposed permanent federal regulations implementing Section 501(b) of the Surface Mining Central and Reclamation Act of 1977, P.L. 95-87.

Sincerely,

Nema Lue Gause

Nema Lue Gause, AIP
Senior Planner

NLG/lw

cc: Maggie Vargas, Kansas Division of Planning and Research

CHANUTE, KANSAS 66720 ■ 303 EAST MAIN ■ BOX 664 ■ PHONE 316/431-0080

TEXAS INSTRUMENTS
INCORPORATED
POST OFFICE BOX 5621 • DALLAS, TEXAS 75222
Science Services Division

10 November 1978

The Office of Surface Mining
U. S. Department of Interior
P. O. Box 682
Benjamin Franklin Station
Washington, D. C. 20044

Re: Draft Environmental Statement - Permanent Regulatory Program

Dear Sir:

This is in response to your transmittal dated October 6, 1978. I have completed the review of the above statement.

In general, the statement is well written and presents an excellent statement of the probable environmental impacts associated with surface mining. It is, however, redundant and lacking in some technical assumptions.

I do offer the following comments:

- Page B III-115, Protection of Underground Mining

  It is stated that 75% of the water associated with deep mining is believed to come from surface mining activities. My experience in the eastern coal fields (Pennsylvania and W. Virginia) has proven this not to be true. The two types of mining do not compete for the same seam of coal in the same area. The water is not permitted to collect in the surface mine permit but is pumped daily to sedimentation ponds and treatment facilities.

  The water that is removed from the deep mine does not cause damage to the ground and surface water via pollution - it is treated prior to discharge into a receiving stream. You are implying that the coal industry does not have rules and regulations to cover this situation. The existing state and federal water pollution regulations control this source of pollution quite effectively.

13500 NORTH CENTRAL EXPRESSWAY • DALLAS • 214-238-2011 • TELEX 73-301 • TWX 910-867-4702 • CABLE: GEESYE

- Page 8 III 71, Section 816.105, Line 8

  Should read "angle of repose.........." vs. "height of repose ...." to better convey the meaning of the paragraph.

- Page 8 III-112, Noise

  The proposed regulation is more restrictive than existing federal and state blasting requirements. The existing rules and regulations are based on years of study and usage. Decreasing the particle speed should not be used as a substitute for competence and proper supervision. The reduction of particle speed will cause an increase in total noise since additional blasting will be required to produce the same results.

  Most surface mining does not occur in areas of dense population, even in the east, hence the noise associated with blasting will not be detrimental. If damages do occur, the judicial system is available for assessing damages.

- Page 8 III-115, Sustained Grades

  By limiting the maximum grade on the haulroads to 10% vs 15% will have the effect of increasing the total length of haulroads required by 50%. This will cause the total area disturbed to increase also. The increase in the area disturbed causes additional impacts on the environment. The cost of construction associated with the mining will increase proportionately with the total length of roads required.

  The noise caused by the steeper grades on the haulroads will not be an adverse effect since most surface mines are not adjacent to center of dense populations.

Please note that the review of your draft environmental statement is not intended to convey or give Texas Instruments' approval to the draft environmental statement.

I appreciate the opportunity to review and comment on the draft statement. I would appreciate receiving a copy of the final document.

Respectfully,

TEXAS INSTRUMENTS, INC.

William M. O'Brien, Jr.

William M. O'Brien, Jr.
Landscape Architect

WMO'B/bh

UTAH INTERNATIONAL INC.

550 CALIFORNIA STREET • SAN FRANCISCO, CALIFORNIA 94104
CABLE ADDRESS UTAHINTL • (415) 981-1515

AB-154

November 22, 1978

Office of Surface Mining
U.S. Department of Interior
P.O. Box 682, Benjamin Franklin Station
Washington, D.C. 20044

Dear Sirs:

Following are our comments on the draft EIS and regulatory analysis of the permanent regulatory program implementing Sec. 501(b) of the Surface Mining Control and Reclamation Act of 1977.

The objective of any EIS is to reveal to the public the nature of a proposal having a significant impact on the human environment and to assess the probable impacts of that action. A second objective is to assess alternatives of the proposed action to the end of revealing alternatives that might be less hurtful to the human environment. In the case of a programmatic EIS such as this, clearly the objective is to assess the overall impact of the proposed "program" and major alternatives to it.

What are some of these "programmatic" impacts as opposed to "site specific" impacts that must be addressed? We respectfully submit that key examples are as follows:

- How much of the U.S. coal resource will be precluded from mining under this program? This should be assessed by the following categories: Alluvial valley floors provisions, prime farm lands provisions, and lands unsuitable provisions.
- How much will the cost of coal to the consumer rise based on this program alone? Eastern steam coal? Western steam coal? Metallurgical coal?
- What delays in mine development and coal market response will result from this program?
- What economic dislocation will result from this program? How many existing mines by size category will be forced to close? What work forces will be impacted?

- What tonnages of marginal coal will be made permanently (for the foreseeable future) unmineable by the provisions of the program?
- What increased acreages of land disturbance will result from road construction, sedimentation ponds and other provisions of the program.

The above items must be addressed in addition to the impacts upon air quality, land form, soils, water quality, vegetation, fish and wildlife, cultural resources and premining land use provisions. These areas which are already addressed, must be placed in the context of programmatic impacts.

The EIS process presupposes the establishment of a point of departure. In order to determine the impact of the program we must of a certainty know what the current standard of reclamation is; the acreages, cost, state of compliance, variance state by state, etc. The basis selected should be that which exists in the absence of SMCRA and should clearly recognize state programs already in effect.

The assessment of alternatives should examine true alternatives to the program and not get caught up in analysis of the specific provisions of any one alternative. Surely that approach is self-defeating and fails to recognize the nature of a programmatic EIS. In our view the following are the kinds of alternative programs that should be assessed:

- Strong Federal program with weak State program.
- Strong State program with weak Federal program.
- Regional programs (programs which clearly respond to regional differences in coal mining techniques such as those found in East versus West operations.)
- Strong performance standards program. (This is contrasted with a program that relies heavily on regulated procedure.)
- Strong procedural program. (This is largely what the proposed program is; however, the environmental impacts of such an approach are never assessed as they differ from a strong performance standards program.)

Implicit in the objective of the EIS process is that the assessment must not be made in isolation; it does not consider a single action suspended in time or space. This EIS fails to consider the cumulative impact of a proposed regulatory program as added to existing state mining programs, or other existing Federal programs already heavily impacting mining, including air, water and solid waste programs.

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We find many statements in the document that rely on conjecture - not fact. The instances are too numerous to list. However, an example is seen in the alternatives section, Page BIV-2, where the discussion under B. "Establish General Objectives or Goals for the States" ignores the significant capability that already exists in the technical staffs of many coal mining states.

In summary, we find the draft EIS to be totally deficient.

- It establishes no basis for a point of departure.
- It fails to address programmatic impacts.
- It fails to identify or assess programmatic alternatives.
- It fails to address cumulative impacts of this program added to other regulatory programs.
- It is technically unsupportable in many of its assertions.

Regarding the Draft Regulatory Analysis we would observe that the methodology used in calculating cost increases is not discussed sufficiently to enable us to ascertain whether the methodology is sound. For example, the required capital investment for the "North Rocky Mountain Area -- Area Stripping Method", calculated using the Fluor Mining & Metals, Inc., Bonner & Moore Macromodel shown in the Draft Regulatory Analysis, is $34,339,000. The Fluor-Bonner & Moore Model for the Powder River Basin hypothesized mine calls for an initial investment of $48,829,000. The OSM and Fluor-Bonner & Moore hypothetical mines are comparable in mining area and method. While the production rates are different (7,977,690 tons per year for Fluor-Bonner & Moore and 5,000,000 tons per year for OSM, those differences would not appear to explain the discrepancy in initial capital investment.

We find the entire analysis to be based on mean data which ignores all those operations which are not average. The analysis thus largely fails to address real world situations. At our own operations we have not accurately costed the impact of all provisions of the regulations, but we are satisfied that costs will far exceed those developed in the Regulatory Analysis.

Very truly yours,

J. LeRoy Balzer
Director Environmental Quality

JLB/st

VIRGINIA SURFACE MINING AND RECLAMATION ASSOCIATION, INC.
REGENCY BUILDING. P.O. BOX 776 BIG STONE GAP, VIRGINIA 24219 PHONE: 703-523-4200

NOV 27 3 [illegible] '78
DEPT. [illegible]
OFFICE OF [illegible]
SURFACE MINING

22 November 1978

Mr. Walter N. Heine, Director
Office of Surface Mining Reclamation and Enforcement
Department of the Interior
Washington, D. C. 20240

Dear Mr. Heine:

We have now completed our review of the proposed permanent federal surface mining program regulations, the Draft Regulatory Analysis, and the Draft Environmental Statement. The following comments are in addition to those presented during our Washington, D. C., testimony on 24 October 1978.

Except where specifically noted, we wish to incorporate in their entirety (by reference) comments on these three documents by the Joint National Coal Association/American Mining Congress Committee on Surface Mining Regulations. This is done in the interest of avoiding duplication and to reduce the amount of material which OSM must review.

Note: This letter was not directed to the Environmental Impact Statement specifically but did contain the following comment on the EIS. To reduce volume, only the portions of the letter pertinent to the EIS are printed.

DRAFT ENVIRONMENTAL IMPACT STATEMENT

The Draft Environmental Impact Statement has most of the problems of the Draft Regulatory Analysis, plus numerous others. It is impossible to tell what level of regulation OSM used as a baseline. There are at least three different statements in that regard.

Next, OSM totally ignores the fact that numerous other state and federal laws exist and are being enforced. Therefore many of the "benefits" cited are non-existent.

Also, the entire tone of the document is one of advocacy and after-the-fact justification of OSM's decisions. Specifically, OSM's conclusions in many areas, such as fugitive dust, water quality, wildlife habitat, land use, etc., simply defy our actual experience and reasonable analysis.

We are also extremely distressed at OSM's failure to adequately discuss and analyze the adverse socio-economic impacts of the proposed regulations. Numerous unnecessary mine closings will result (and are resulting under the interim regulations), electricity costs will go up far more that stated by OSM, numerous jobs are being and will be lost, and entire communities will find their entire social and economic bases drastically disturbed. But these factors were apparently included in the "minor---beneficial" effects noted in the Draft Environmental Impact Statement.

The entire document shows a disturbing lack of knowledge about the coal industry and society in our region.

We feel that major revision, based on far greater study, is necessary before it can serve its intended purpose.

This concludes our comments on these three documents. Please call on us if we can provide further information.

Yours truly,

B. V. Cooper
Executive Director

BVC/sd

cc: Dr. Charles Beasley
Mr. Carl Close
Dr. David Maneval
Ms. Janie Markley
Mr. Paul Reeves

NOV 27 [illegible]
OFFICE OF
SURFACE MINING

VOSCO, INC.
R. D. 1, BOX 306B
EXPORT, PENNSYLVANIA 15632
(412) 468-5256

Nov. 14, 1978

Office of Surface Mining
U. S. Dept. of the Interior
P. O. Box 682
Benjamin Franklin Station
Washington, D. C. 20044

Dear Sirs:

Concerning the draft on section 501(b) act of 1977. I can see you want everyone East of the Mississippi River out of the coal fields.

Next to the Federal Government, the big oil company's have a lot of the Western coal. Most of the western coal is exempt from a lot of the federal laws. With the government, which are the politicians, and the oil companys donating to them, it seems like someone is obligated. If these laws are put into effect, then I have to feel that the Government people want us in the eastern coal out of bussiness. This would give the western coal all kinds of protection and there will be no competion for them, against the eastern coal, which is much better coal then the junk out west.

Now I see on the news the Government if leasing there coal to oil companys. Exon Oil Co is suppose to be one of these companys leasing at a very low sum of money.

So the Government can be proud of what they are doing.

Wilbur W. Osterwsie

Wilbur W. Osterwsie
VOSCO Inc.

WESTMORELAND RESOURCES, INC.
Post Office Box 449, Hardin, Montana 59034 (406) 342-5241

NOV 25 5 10 AM '78
[illegible] INTERIOR
SURFACE MINING

November 22, 1978

Office of Surface Mining
U.S. Department of the Interior
P. O. Box 7267
Benjamin Franklin Station
Washington, D.C. 20044

Gentlemen:

In behalf of Westmoreland Resources, Inc. I wish to compliment the Office of Surface Mining for its dedication to the interative procedure involved in preparing the Proposed Rules for the Permanent Program, the Draft Environmental Impact Statement and the Draft Regulatory Analysis, all required by Public Law 95-87, entitled The Surface Mining Control and Reclamation Act of 1977. Westmoreland Resources will continue to devote its best efforts to study and to analyze these documents and to comment thereon in a sincere effort to create a regulatory structure that will permit an intelligent blending of environmental protection with the necessity to assure the coal supply essential to the energy requirements and the social and economic well-being of the Nation.

Westmoreland Resources has already requested an extension of the time allotted for comment on these extensive documents. Since the receipt of the pertinent material in late September and early October, our small staff has devoted many hours to the study and interpretation of this mass of verbiage. We find that much more time and effort is needed to understand fully the entire meaning and potential consequences of the material that we have studied to date.

By this letter, I will comment only briefly on one vital area of the Draft Environmental Statement - namely the Socio-economic section. With respect to other aspects, Westmoreland Resources, Inc., concurs with comments submitted by the National Coal Association - American Mining Congress joint committee.

Prior to examining the Draft EIS, I studied the Draft Regulatory Analysis. In several sections, the Regulatory Analysis indicated that a disruption to the supply of coal in the nation will occur. In one instance, the stated reduction in coal supply was mentioned specifically:

page 79: "Alternative 3 causes a production weighted average national loss of 102.8 million tons." and

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page 80: "OSM selected alternative 3 because it is the most environmentally protective."

I have examined the consequences of such a reduction in supply. In my analysis, I made several assumptions:

1) loss of production means unemployed coal miners;

2) Central and Southern Appalachia achieve no more than 10 tons per man per day;

3) Northern Appalachia achieves no more than 10 tons per man per day;

4) the Midwest achieves no more than 20 tons per may per day.

The impact of this tonnage reduction is then:

1) 12500 miners will become unemployed in Central and Southern Appalachia:

2) 11400 miners will become unemployed in Northern Appalachia;

3) 7100 miners will become unemployed in the Midwest;

4) about 3000 more miners will become unemployed in various other areas of the country.

It is very easy for OSM to ignore such facts by declaring them to "minor" and "regional" but to the people who lose their jobs and to the areas where the losses occur, the impacts may be regional, but they are far from minor. The employment of a few professionally trained people in other parts of the country will not go far to mitigate the impacts on the people manning the breadlines.

I feel emphatically that OSM has a legal responsibility to publish a fully documented, accurate and specific statement of the socio-economic consequences of the proposed regulations! The discussion in the draft is abbreviated, ill-conceived and totally inadequate to meet the requirements of NEPA.

Next, I have a few additional comments on the salutary effects of the regulations on "public services." The following quotation is astonishing:

page BIII-134: "OSM's regulations will have major beneficial impacts on local public services such as municipal water supplies, education, health care, public assistance and law enforcement in the coal producing regions of the Nation."

Municipal water supplies maybe; the rest are pipe dreams not supported by the text.

Finally, page BIII-135: "Respect for enforcement personnel connected with coal mining will increase as more highly qualified inspectors are hired and the training of current inspectors is upgraded."

I can only wonder what type person OSM thinks that it employs.

Please be assured that Westmoreland Resources will continue to use its best efforts to contribute to the development of a reasonable program of regulation as directed by the Congress of the United States.

Yours very truly,

Ralph E. Moore/dlm
Ralph E. Moore
Vice President - Operations

dlm
C: William A. White, Esq.

APPENDIX C

PREFERRED ALTERNATIVE

FINAL RULES

SUBCHAPTER A -- GENERAL

PART 700 -- GENERAL

Sec.

700.1 Scope.
700.2 Objective.
700.3 Authority.
700.4 Responsibilities.
700.5 Definitions.
700.11 Applicability.
700.12 Petitions to initiate rulemaking.
700.13 Notice of citizen suits.
700.14 Availability of records.
700.15 Computation of time.

Authority : Sections 102, 201, 304, 412, 501, 515, 516, 517, 523, 527, 528, 529, 701, 719, Pub. L. 95-87, 91 Stat. 448, 449, 454, 466, 467, 486, 495, 498, 510, 513, 514, 515, 516 (30 U.S.C. 1202, 1211, 1224, 1242, 1251, 1265, 1266, 1267, 1273, 1277, 1278, 1279, 1291, 1309).

§700.1
Scope.

The regulations in Chapter VII of 30 CFR, consisting of Parts 700-899, establish the procedures through which the Secretary of the Interior will implement the Surface Mining Control and Reclamation Act of 1977 (Pub. L. 95-87, 91 Stat. 445 (30 U.S.C. section 1201 et. seq.)). Chapter VII is divided into 13 Subchapters.

(a) Subchapter A contains introductory information intended to serve as a guide to the rest of the Chapter and to the regulatory requirements and definitions generally applicable to the programs and persons covered by the Act.

(b) Subchapter B contains regulations covering the initial regulatory program which apply before the applicability of permanent program regulations to persons conducting surface coal mining and reclamation operations and other persons covered by the Act.

(c) Subchapter C sets forth regulations covering applications for and decisions on permanent State programs; the process to be followed for substituting a Federal program for an approved State program, if necessary; the process for assuming temporary Federal enforcement of an approved State program; and the process for implementing a Federal program in a State when required by the Act.

(d) Subchapter D identifies the procedures that apply to surface coal mining and reclamation operations conducted on Federal lands rather than State or private lands and incorporates by reference the permit requirements of Subchapter G, the performance bond and insurance requirements of Subchapter J, the performance standards of Subchapter K, the inspection and enforcement requirements of Subchapter L, and the blaster's certification requirements of Subchapter M.

(e) (1) Subchapter F implements the requirements of the Act for --

(i) Designating lands which are unsuitable for all or certain types of surface coal mining operations;

(ii) Terminating designations no longer found to be appropriate; and

(iii) Prohibiting surface coal mining and reclamation operations on those lands or areas where the Act states that surface coal mining operations should not be permitted or should be permitted only after specified determinations are made.

(2) This Subchapter does not include regulations governing designation of areas unsuitable for noncoal mining under the terms of Section 601 of the Act or the designation of Federal lands under the Federal lands review provisions of Section 522(b) of the Act. The Bureau of Land Management of the Department of Interior is responsible for these provisions which will be implemented when promulgated by regulations in Title 43 of the Code of Federal Regulations.

(f) Subchapter G governs applications for and decisions on permits for surface coal mining and reclamation operations on non-Indian and non-Federal lands under a State or Federal program. It also governs coal exploration and permit application and decisions on permits for special categories of coal mining on non-Indian for and non-Federal lands under a State or Federal program. Regulations implementing the experimental practices provision of the Act are also included in Subchapter G.

(g) Subchapter J sets forth requirements for performance bonds and public liability insurance for both surface mining and underground mining activities.

(h) Subchapter K sets forth the environmental and other performance standards which apply to coal exploration and to surface coal mining and reclamation operations during the permanent regulatory program. The regulations establish the minimum requirements for operations under State and Federal programs. Performance standards applicable to special mining situations such as anthracite mines, steep slope mining, alluvial valley floors, and prime farmlands are included.

(i) Subchapter L sets forth the inspection, enforcement, and civil penalty provisions that apply to a State, Federal, or Federal lands program.

(j) Subchapter M sets forth the requirements for the training, examination, and certification of blasters.

(k) Subchapter P sets forth the provisions for protection of employees who initiate proceedings under the Act or testify in any proceedings resulting from the administration or enforcement of the Act.

(l) Subchapter R sets forth the regulations for the abandoned mine land reclamation program. These regulations include the fee collection requirements and the mechanisms for implementing the State and Federal portions of the abandoned mine land reclamation program.

(m) Subchapter S sets forth the regulations that apply to grants for mining and mineral research institutes and grants for mineral research projects.

§700.2
Objective.

The objective of Chapter VII is to fulfill the purposes of the Act found in Section 102 in a manner which is consistent with the language of the Act, its legislative history, other applicable laws, and judicial interpretations.

§700.3
Authority.

The Secretary is authorized to administer the requirements of the Act, except the following:

(a) Provisions of the Act that authorize the Secretary of Agriculture to establish programs for the reclamation of rural lands, identification of prime agricultural lands, and other responsibilities described in the Act. Regulations promulgated by the Secretary of Agriculture are in 7 CFR;

(b) Provisions of the Act for which responsibility is specifically assigned to other Federal agencies, including the Department of Labor, the Environmental Protection Agency, the Corps of Engineers, the Council on Environmental Quality, and the Department of Energy; and

(c) Authority retained by the States to enforce State laws or regulations which are not inconsistent with the Act and this Chapter, including the authority to enforce more stringent land use and environmental controls and regulations.

§700.4
Responsibilities.

(a) The Director of the Office of Surface Mining Reclamation and Enforcement, under the general direction of the Assistant Secretary, Energy and Minerals, is responsible for exercising the authority of the Secretary, except for the following:

(1) Approval or disapproval of an initial State program and withdrawal of approval and implementation of a Federal program. The Director is responsible for exercising the authority of the Secretary to substitute Federal enforcement of a State program under Section 521(b) of the Act.

(2) Designation of lands as unsuitable for all or certain types of surface coal mining operations under section 522 of the Act and as unsuitable for noncoal mining under section 601 of the Act; and

(3) Authority to approve or disapprove mining plans to conduct surface coal mining and reclamation operations on Federal lands.

(b) The Director is responsible for consulting with Federal land-managing agencies and Federal agencies with responsibility for natural and historic resources on Federal lands on actions which may have an effect on their responsibilities.

(c) The States are responsible for the regulation of surface coal mining and reclamation operations under the initial regulatory program and surface coal mining and reclamation operations and coal exploration under an approved State program and the reclamation of abandoned mine lands under an approved State Reclamation Plan on non-Federal and non-Indian lands in accordance with procedures in this Chapter.

(d) The Secretary may delegate to a State through a cooperative agreement certain authority relating to the regulation of surface coal mining and reclamation operations on Federal lands in accordance with 30 CFR Part 745.

(e) The Director, Office of Hearings and Appeals, U.S. Department of the Interior, is responsible for the administration of administrative hearings and appeals required or authorized by the Act pursuant to the regulations in 43 CFR Part 4.

§700.5
Definitions.

As used throughout this chapter, the following terms have the specified meaning except where otherwise indicated --

Act means the Surface Mining Control and Reclamation Act of 1977 (Pub. L. 95-87).

Anthracite means coal as classified as anthracite in ASTM Standard D 388-77. Coal classifications are published by the American Society of Testing and Materials under the title, Standard Specification for Classification of Coals by Rank, ASTM D 388-77, on pages 220 through 224. Table 1 which classifies the coals by rank is presented on page 223. This publication is hereby incorporated by reference as it exists on the date of adoption of these regulations. Notices of changes made to this publication will be periodically published by the Office of Surface Mining in the Federal Register. This ASTM Standard is on file and available for inspection at the OSM Office, U.S. Department of the Interior, South Interior Building, Washington, D.C. 20240, at each OSM Regional Office, District Office and Field Office, and at the central office of the applicable State Regulatory Authority, if any. Copies of these publications may also be obtained by written request to the above locations. Incorporation by reference provisions approved by the Director of the Federal Register _____________(date).

Coal means combustible carbonaceous rock, classified as anthracite, bituminous, subbituminous, or lignite by ASTM

Standard D 388-77, referred to and incorporated by reference in the definition of "anthracite" immediately above.

Department means the Department of the Interior.

Director means the Director, Office of Surface Mining Reclamation and Enforcement, or the Director's representative.

Federal lands means any land, including mineral interests, owned by the United States, without regard to how the United States acquired ownership of the lands which agency manages the lands. It does not include Indian lands. However, lands or mineral interests east of the 100th meridian west longitude owned by the United States and entrusted to or managed by the Tennessee Valley Authority are not subject to sections 714 (surface owner protection) and 715 (federal lessee protection) of the Act.

Federal lands program means a program established by the Secretary pursuant to Section 523 of the Act to regulate surface coal mining and reclamation operations on Federal lands.

Fund means the Abandoned Mine Reclamation Fund established pursuant to Section 401 of the Act.

Indian lands means all lands, including mineral interests and rights-of-way, within the exterior boundaries of any Federal Indian reservation, notwithstanding the issuance of any patent, and all lands, including mineral interests, held in trust for or supervised by an Indian tribe.

Indian tribe means any Indian tribe, band, group, or community having a governing body recognized by the Secretary.

Office means the Office of Surface Mining Reclamation and Enforcement established under Title II of the Act.

Regional Director means a Regional Director of the Office or a Regional Director's representative.

Person means an individual, Indian tribe when conducting surface coal mining and reclamation operations on non-Indian lands, partnership, association, society, joint venture, joint stock company, firm, company, corporation, cooperative or other business organization and any agency, unit, or instrumentality of Federal, State or local government including any publicly owned utility or publicly owned corporation of Federal State or local government.

Person having an interest which is or may be adversely affected or person with a valid legal interest shall include any person--

(a) Who uses any resource of economic, recreational, esthetic, or environmental value that may be adversely affected by coal exploration or surface coal mining and reclamation operations or any related action of the Secretary or the State regulatory authority; or

(b) Whose property is or may be adversely affected by coal exploration or surface coal mining and reclamation operations or any related action of the Secretary or the State regulatory authority.

Public office means a facility under the direction and control of a governmental entity which is open to public access on a regular basis during reasonable business hours.

Regulatory authority means the department or agency in each State which has primary responsibility at the State level for administering the Act in the initial program, or the State regulatory authority where the State is administering the Act under a State regulatory program, or the Secretary in the initial or permanent program where the Secretary is administering the Act, or the Secretary when administering a Federal program or Federal lands program or when enforcing a State program pursuant to Section 521(b) of the Act.

Regulatory program means any approved State or Federal program.

Secretary means the Secretary of the Interior or the Secretary's representative.

State regulatory authority means the department or agency in each State which has primary responsibility at the State level for administering the initial or permanent State regulatory program.

Surface coal mining operations means--

(a) Activities conducted on the surface of lands in connection with a surface coal mine or, subject to the requirements of section 516 of the Act, surface operations and surface impacts incident to an underground coal mine, the products of which enter commerce or the operations of which directly or indirectly affect interstate commerce. Such activities include excavation for the purpose of obtaining coal, such common methods as contour, strip, auger, mountaintop removal, box cut, open pit, and area mining, the uses of explosives and blasting, and in situ distillation or retorting, leaching or other chemical or physical processing, and the cleaning, concentrating, or other processing or preparation, loading of coal for interstate commerce at or near the mine-site: Provided, however, that these activities do not include the extraction of coal incidental to the extraction of other minerals, where coal does not exceed 16 2/3 per centum of the tonnage of minerals removed for purposes of commercial use or sale, or coal exploration subject to Section 512 of the Act; and Provided further, that excavation or the purpose of obtaining coal includes extraction of coal from coal refuse piles; and

(b) Areas upon which the activities described in paragraph (a) above occur or where those activities disturb the natural land surface. These areas shall also include any adjacent land the use of which is incidental to any such activities, all lands affected by the construction of new roads or the improvement or use of existing roads to gain access to the site of those activities and for haulage and excavation, workings, impoundments, dams, ventilation shafts, entryways, refuse banks, dumps, stockpiles, overburden piles, spoil banks, culm banks, tailings, holes or depressions, repair areas, storage areas, processing areas, shipping areas, and other areas upon which are sited structures, facilities, or other property or material on the surface, resulting from or incident to those activities.

Surface coal mining and reclamation operations means surface coal mining operations and all activities necessary or incidental to the reclamation of such operations. This term includes the term surface coal mining operations.

Ton means 2000 pounds avoirdupois (.90718 metric ton).

§700.11
Applicability.

This Chapter applies to all coal exploration and surface coal mining and reclamation operations, except--

(a) The extraction of coal by a landowner for his or her own noncommercial use from land owned or leased by him or her. Noncommercial use does not include the extraction of coal by one unit of an integrated company or other business or nonprofit entity which uses the coal in its own manufacturing or power plants;

(b) The extraction of coal for commercial purposes where the surface coal mining and reclamation operation affects two acres or less.

(c) The extraction of 250 tons of coal or less by a person. A person who intends to remove more than 250 tons is not exempted.

(d) The extraction of coal as an incidental part of Federal, State or local government-financed highway or other construction in accordance with 30 CFR 707;

(3) The extraction of coal incidental to the extraction of other minerals where coal does not exceed 16 2/3 percent of the mineral tonnage removed for commercial use or sale;

(f) The extraction of coal on Indian lands in accordance with 25 CFR 177, Subpart B; and

(g) Coal exploration on Federal lands outside a permit area.

§700.12
Petitions to initiate rulemaking.

(a) Any person may petition the Director to initiate a proceeding for the issuance, amendment, or repeal of any regulation under the Act. The petition shall be submitted to the Office of the Director, Office of Surface Mining Reclamation and Enforcement, Department of the Interior, Washington, D.C. 20240.

(b) The petition shall be a concise statement of the facts, technical justification, and law which require issuance, amendment, or repeal of a regulation under the Act and shall indicate whether the petitioner desires a public hearing.

(c) Upon receipt of the petition, the Director shall determine if the petition sets forth facts, technical justification and law which may provide a reasonable basis for issuance, amendment or repeal of a regulation. Facts, technical justification or law previously considered in a petition or rulemaking on the same issue shall not provide a reasonable basis. If the Director determines that the petition has a reasonable basis, a notice shall be published in the Federal Register seeking comments from the public on the proposed change. The Director may hold a public hearing, may conduct an investigation or take other action to determine whether the petition should be granted.

(d) Within 90 days from receipt of the petition, the Director shall issue a written decision either granting or denying the petition. The Director's decision shall constitute the final decision for the Department.

(1) If the petition is granted, the Director shall initiate a rulemaking proceeding.

(2) If the petition is denied, the Director shall notify the petitioner in writing, setting forth the reasons for denial.

§700.13
Notice of citizen suits.

(a) A person who intends to initiate a civil action on his or her own behalf under Section 520 of the Act shall give notice of intent to do so, in accordance with this Section.

(b) Notice shall be given by certified mail to the Secretary and the Director in all cases and to the head of the State regulatory authority, if a complaint involves or relates to a specific State. A copy of the notice shall be sent by first class mail to the Regional Director, if the complaint involves or relates to surface coal mining and reclamation operations in a specific region of the Office.

(c) Notice shall be given by certified mail to the alleged violator, if the complaint alleges a violation of the Act or any regulation, order, or permit issued under the Act.

(d) Service of notice under this section is complete upon mailing to the last known address of the person being notified.

(e) A person giving notice regarding an alleged violation shall state, to the extent known--

(1) Sufficient information to identify the provision of the Act, regulation, order, or permit allegedly violated;

(2) The act or omission alleged to constitute a violation;

(3) The name, address, and telephone numbers of the person or persons responsible for the alleged violation;

(4) The date, time, and location of the alleged violation;

(5) The name, address, and telephone number of the person giving notice; and

(6) The name, address, and telephone number of legal counsel, if any, of the person giving notice.

(f) A person giving notice of an alleged failure by the Secretary or a State regulatory authority to perform a mandatory act or duty under the Act shall state, to the extent known:

(1) The provision of the Act containing the mandatory act or duty allegedly not performed;

(2) Sufficient information to identify the omission alleged to constitute the failure to perform a mandatory act or duty under the Act;

(3) The name, address, and telephone number of the person giving notice; and

(4) The name, address, and telephone number of legal counsel, if any, of the person giving notice.

§700.14
Availability of records.

(a) Records required by the Act to be made available locally to the public shall be retained at the geographically closest office of the State or Federal regulatory authority having jurisdiction over the area involved.

(b) Other records or documents in the possession of the Office may be requested under 43 CFR Part 2, which implements the Freedom of Information Act and the Privacy Act.

§700.15
Computation of time.

(a) Except as otherwise provided, computation of time under this Chapter is based on calendar days.

(b) In computing any period of prescribed time, the day on which the designated period of time begins is not included. The last day of the period is included unless it is a Saturday, Sunday, or legal holiday on which the regulatory authority is not open for business, in which event the period runs until the end of the next day which is not a Saturday, Sunday, or legal holiday.

(c) Intermediate Saturdays, Sundays, and legal holidays are excluded from the computation when the period of prescribed time is 7 days or less.

PART 701 -- PERMANENT REGULATORY PROGRAM

Sec.

701.1 Scope.
701.2 Objective.
701.3 Authority.
701.4 Responsibility.
701.5 Definitions.

701.11 Applicability.

Authority : secs. 102, 201, 501, 503, 504, 506, 512, 515, 516, and 701, Pub. L. 95-87, 91 Stat. 448, 449, 467, 470, 471, 486, 495 and 516 (30 U.S.C. 1201, 1211, 1251, 1253, 1254, 1265, 1266, 1295).

§701.1
Scope.

(a) This Part provides general introductory material for the permanent regulatory program required by the Act.

(b) The following regulations apply to the permanent regulatory program:

(1) Subchapter C on State program application, approval, withdrawal, and grants, and Federal program implementation;

(2) Subchapter D on surface coal mining and reclamation operations on Federal lands;

(3) Subchapter F on criteria for designating lands unsuitable for surface coal mining operations and the process for designating these lands or withdrawing the designation by the regulatory authority;

(4) Subchapter G on the process for application, approval, denial, revision, and renewal of permits for surface coal mining and reclamation operations, including the small operator assistance program, requirements for special categories of these operations, and requirements for coal exploration;

(5) Subchapter J on public liability insurance and performance bonds or other assurances of performance for surface coal mining and reclamation operations;

(6) Subchapter K on performance standards which apply to coal exploration, surface coal mining and reclamation operations, and special categories of these operations;

(7) Subchapter L on inspection and enforcement responsibilities and civil penalties; and

(8) Subchapter M on the training, examination, and certification of blasters.

§701.2
Objective.

The regulations in this Part give--

(a) A general overview of the regulatory program to be implemented by the State or Federal regulatory authority;

(b) The applicability of that program to coal exploration and surface coal mining and reclamation operations; and

(c) The definitions that apply to the regulation of coal exploration and surface coal mining and reclamation operations.

§701.3
Authority.

(a) The Secretary is required by Sections 501(b) and 523 of the Act to promulgate regulations which establish the permanent regulatory program and Federal lands program created by the Act.

§701.4
Responsibility.

(a) A State regulatory authority shall assume primary responsibility for regulation of coal exploration and surface coal mining and reclamation operations during the permanent regulatory program upon submission to and approval by the Secretary of a State program meeting all applicable requirements of the Act and this Chapter. After approval of the State program, the State regulatory authority has responsibility for review of and decisions on permits and bonding for surface coal mining and reclamation operations, approval of coal exploration which substantially disturbs the natural land surface and removes more than 250 tons of coal from the earth in any one location, inspection of coal exploration and surface coal mining and reclamation operations for compliance with the Act, this Chapter, the State program, permits and exploration approvals, and for enforcement of the State program.

(b) While a State regulatory program is in effect, the Office's responsibility includes, but is not limited to --

(1) Evaluating the administration of the State program through such means as periodic inspections of coal exploration and surface coal mining and reclamation operations in the State and review of exploration approvals, permits, inspection reports, and other documents required to be made available to the Office;

(2) Referring to the State regulatory authority information which creates reasonable belief that a person is in violation of the Act, this Chapter, the State regulatory program, a permit condition, or coal exploration approval condition, and initiating an inspection when authorized by the Act or this Chapter;

(3) Issuing notices of violation when a State regulatory authority fails to take appropriate action to cause a violation to be corrected; and

(4) Issuing cessation orders, including imposing affirmative obligations, when a condition, practice, or violation exists which creates an imminent danger to the health or safety of the public, or is causing or could reasonably be expected to cause significant, imminent environmental harm to land, air, or water resources.

(c) The Office shall implement a Federal program in a State, if that State does not have an approved State program by June 3, 1980. The Office shall not implement a Federal program in a State for a period of up to 1 year following that date if the State's failure to have an approved program by that date is due to an injunction imposed by a court of competent jurisdiction.

(d) Under a Federal program, the Office shall be the regulatory authority for all coal exploration and surface coal mining and reclamation operations in that State and shall perform the functions that a State regulatory authority would perform under an approved State program.

(e) During the period in which a State program is in effect, the Office shall assume responsibility for enforcing permit conditions, issuing new or revised permits, and issuing necessary notices and orders, when required by 30 CFR Part 733.

(f) The Secretary shall substitute a Federal program under 30 CFR 736 for an approved State program, when required by 30 CFR Part 733.

(g) The Secretary shall have the responsibility for administration of the Federal lands program. The Director and other Federal authorities shall have the responsibilities under a Federal lands program as are provided for under Subchapter D of this Chapter. In addition, State regulatory authorities shall have responsibilities to administer the Federal lands program as provided for under cooperative agreements approved by the Secretary in accordance with 30 CFR 745.

§701.5
Definitions.

As used in this Chapter, the following terms have the specified meanings, except where otherwise indicated:

Acid drainage means water with a pH of less than 6.0 and in which total acidity exceeds total alkalinity, discharged from an active, inactive or abandoned surface coal mine and reclamation operation or from an area affected by surface coal mining and reclamation operations.

Acid-forming materials means earth materials that contain sulfide minerals or other materials which, if exposed to air, water, or weathering processes, form acids that may create acid drainage.

Adjacent area means, in the context of permit application, review, approval, renewal and revision, an area contiguous to or near a mine plan area which may be impacted by surface coal mining and reclamation operations conducted within a permit area during the life of those operations. Adjacent area means, in the context of conducting surface coal mining and reclamation operations, an area contiguous to or near an affected area which may be impacted by surface coal mining and reclamation operations conducted within a permit area during the life of those operations.

Affected area means, in the context of surface mining activities, the area within the permit area which is disturbed or utilized during the term of the permit in the course of conducting those activities. When used in the context of underground mining activities, affected area means the area disturbed or utilized during the term of the permit (a) by surface operations or facilities incident to underground mining activities, or (b) by underground coal mining operations.

Agricultural activities means, with respect to alluvial valley floors, the use of any tract of land for the production of animal or vegetable life, where the use is enhanced or facilitated by subirrigation or flood irrigation associated with alluvial valley floors. These uses include, but are not limited to, the pasturing, grazing, or watering of livestock, and the cropping, cultivation, or harvesting of plants whose production is aided by the availability of water from subirrigation or flood irrigation. Those uses do not include agricultural practices which do not benefit from the availability of water from subirrigation or flood irrigation.

Agricultural use means the use of any tract of land for the production of animal or vegetable life. The uses include, but are not limited to, the pasturing, grazing, and watering of livestock, and the cropping, cultivation, and harvesting of plants.

Alluvial valley floors means the unconsolidated stream-laid deposits holding streams with water availability sufficient for subirrigation or flood irrigation of agricultural activities but does not include upland areas which are generally overlain by a thin veneer of colluvial deposits composed chiefly of debris from sheet erosion, deposits formed by unconcentrated runoff or slope wash, together with talus, or other mass-movement accumulations, and windblown deposits.

Applicant means any person seeking a permit from a regulatory authority to conduct surface coal mining and reclamation operations pursuant to a State, Federal, or Federal lands program.

Approximate original contour means that surface configuration achieved by backfilling and grading of the mined areas so that the reclaimed area, including any terracing or access roads, closely resembles the general surface configuration of the land prior to mining and blends into and complements the drainage pattern of the surrounding terrain, with all highwalls, spoil piles and coal refuse piles eliminated. Permanent water impoundments may be permitted where the regulatory authority has determined that they comply with 30 CFR 816.49 and 816.56, or 816.49 and 817.56.

Aquifer means a zone, stratum, or group of strata that can store and transmit water in sufficient quantities for a specific use.

Arid and semiarid area means, in the context of alluvial valley floors, an area of the interior western United States, west of the one hundredth meridian west longitude, experiencing water deficits, where water use by native vegetation equals or exceeds that supplied by precipitation. In general, all coalfields located in North Dakota west of the 100th meridian west longitude, all coalfields in Montana, Wyoming, Utah, Colorado, New Mexico, Idaho, Nevada, and Arizona, the Eagle Ross field in Texas, and the Stone Canyon and the Ione fields in California are in arid and semiarid areas.

Auger mining means a method of mining coal at a cliff or highwall by drilling holes into an exposed coal seam from the highwall and transporting the coal along an auger bit to the surface.

Best technology currently available means equipment, devices, systems, methods, or techniques which will (a) prevent, to the extent possible, additional contributions of suspended solids to stream flow or runoff outside the permit area, but in no event result in contributions of suspended solids in excess of requirements set by applicable State or Federal laws; and (b) minimize, to the extent possible, disturbances and adverse impacts on fish, wildlife and related environmental values, and achieve enhancement of those resources where practicable. The term includes equipment, devices, systems, methods, or techniques which are currently available anywhere as determined by the Director, even if they are not in routine use. The term includes, but is not limited to, construction practices, siting requirements, vegetative selection and planting requirements, animal stocking requirements, scheduling of activities and design of sedimentation ponds in accordance with 30 CFR 816 and 817. Within the constraints of the permanent program, the regulatory authority shall have the discretion to determine the best technology currently available on a case-by-case basis, as authorized by the Act and this Chapter.

Coal exploration means the field gathering of: (a) surface or subsurface geologic, physical, or chemical data by mapping, trenching, drilling, geophysical, or other techniques necessary to determine the quality and quantity of overburden and coal of an area; or (b) the gathering of environmental data to establish the conditions of an area before beginning surface coal mining and reclamation operations under the requirements of this Chapter.

Coal processing plant means a collection of facilities where run-of-the-mine coal is subjected to chemical or physical processing and separated from its impurities. The processing plant may consist of, but need not be limited to the following facilities: loading facilities; storage and stockpile facilities; sheds, shops and other buildings; water treatment and water storage facilities; settling basins and impoundments; coal processing and other waste disposal areas; roads, railroads and other transport facilities.

Coal processing waste means earth materials which are combustible, physically unstable, or acid-forming or toxic-forming which are wasted or otherwise separated from product coal, and slurried or otherwise transported from coal preparation plants, after physical or chemical processing, cleaning, or concentrating of coal.

Combustible material means organic material that is capable of burning, either by fire or through oxidation, accompanied by the evolution of heat and a significant temperature rise.

Compaction means increasing the density of a material by reducing the voids between the particles and is generally accomplished by controlled placement and mechanical effort such as from repeated application of wheel, track, or roller loads from heavy equipment.

Cropland means land used for the production of adapted crops for harvest, alone or in a rotation with grasses and legumes, and includes row crops, small grain crops, hay crops, nursery crops, orchard crops, and other similar specialty crops.

Disturbed area means an area where vegetation, topsoil, or overburden has been removed or their natural condition altered by surface coal mining operations. Those areas are classified as disturbed until reclamation is complete and the performance bond or other assurance of performance required by Subchapter J of this Chapter is released.

Diversion means a channel, embankment, or other man-made structure constructed to divert water from one area to another.

Downslope means the land surface between the projected outcrop of the lowest coalbed being mined along each highwall and a valley floor.

Embankment means an artificial deposit of material that is raised above the natural surface of the land and used to contain, divert, or store water, support roads or railways, or for other similar purposes.

Ephemeral stream means a stream which flows only in direct response to precipitation in the immediate watershed or in response to the melting of a cover of snow and ice, and which has a channel bottom that is always above the local water table.

Essential hydrologic functions means the role of an alluvial valley floor in collecting, storing, regulating, and making the natural flow of surface or ground water, or both, usefully available for agricultural activities by reason of the valley floor's topographic position, the landscape and the physical properties of its underlying materials. A combination of these functions provides a water supply during extended periods of low precipitation.

(a) The role of the valley floor in collecting water includes accumulating runoff and discharge from aquifers in sufficient amounts to make the water available at the alluvial valley floor greater than the amount available from direct precipitation.

(b) The role of the alluvial valley floor in storing water involves limiting the rate of discharge of surface water, holding moisture in soils, and holding ground water in porous materials.

(c) (1) The role of the alluvial valley floor in regulating the natural flow of surface water results from the characteristic configuration of the channel flood plain and adjacent low terraces.

(2) The role of alluvial valley floor in regulating the natural flow of ground water results from the properties of the aquifers which control inflow and outflow.

(d) The role of the alluvial valley floor in making water usefully available for agricultural activities results from the existence of flood plains and terraces where surface and ground water can be provided in sufficient quantities to support the growth of agriculturally useful plants, from the presence of earth materials suitable for the growth of agriculturally useful plants, from the temporal and physical distribution of water making it accessible to plants throughout the critical phases of the growth cycle either by flood irrigation or by subirrigation, from the natural control of alluvial valley floors in limiting destructive extremes of stream discharge, and from the erosional stability of earth materials suitable for the growth of agriculturally useful plants.

Existing structure means a structure or facility used in connection with or to facilitate surface coal mining and reclamation operations for which construction begins prior to the approval of a State program or implementation of a Federal program or Federal lands program, whichever occurs first.

Federal program means a program established by the Secretary pursuant to Section 504 of the Act to regulate coal exploration and surface coal mining and reclamation operations on non-Federal and non-Indian lands within a State in accordance with the Act and this Chapter.

(a) Complete Federal program means a program established by the Secretary pursuant to section 504 of the Act before June 3, 1980, or upon the complete withdrawal of a State program after June 3, 1980, by which the Director regulates all coal exploration and surface coal mining and reclamation operations.

(b) Partial Federal program means a program established by the Secretary pursuant to sections 102, 201 and 504 of the Act upon the partial withdrawal of a State program, by which the Director may regulate appropriate portions of coal exploration and surface coal mining and reclamation operations.

Flood irrigation means, with respect to alluvial valley floors, supplying water to plants by natural overflow or the diversion of flows, so that the irrigated surface is largely covered by a sheet of water.

Fugitive dust means that particulate matter not emitted from a duct or stack which becomes airborne due to the forces of wind or surface coal mining and reclamation operations or both. During surface coal mining and reclamation operations it may include emissions from haul roads; wind erosion of exposed surfaces, storage piles, and spoil piles; reclamation operations; and other activities in which material is either removed, stored, transported, or redistributed.

Ground water means subsurface water that fills available openings in rock or soil materials to the extent that they are considered water saturated.

Half-shrub means a perennial plant with a woody base whose annually produced stems die back each year.

Head-of-hollow fill means a fill structure consisting of any material, other than coal processing waste and organic material, placed in the uppermost reaches of a hollow where side slopes of the fill measured at the steepest point are greater that 20° or the profile of the hollow from the toe of the fill to the top of the fill is greater than 10°. In fills with less than 250,00 cubic yards of material, associated with contour mining, the top surface of the fill will be at the elevation of the coal seam. In all other head-of-hollow fills, the top surface of the fill, when completed, is at approximately the same elevation as the adjacent ridge line, and no significant area of natural drainage occurs above the fill draining into the fill area.

Highwall means the face of exposed overburden and coal in an open cut of a surface coal mining activity or for entry to underground mining activities.

Historically used for cropland means (1) lands that have been used for cropland for any 5 years or more out of the 10 years immediately preceding the acquisition, including purchase, lease, or option, of the land for the purpose of conducting or allowing through resale, lease or option the conduct of surface coal mining and reclamation operations; or (2) lands that would likely have been used as cropland for any 5 out of the last 10 years, but for same fact of ownership or control of the land unrelated to the productivity of the land.

Hydrologic balance means the relationship between the quality and quantity of water inflow to, water outflow from, and water storage in a hydrologic unit such as a drainage basin, aquifer, soil zone, lake, or reservoir. It encompasses the dynamic relationships among precipitation, runoff, evaporation, and changes in ground and surface water storage.

Hydrologic regime means the entire state of water movement in a given area. It is a function of the climate and includes the phenomena by which water first occurs as atmospheric water vapor, passes into a liquid or solid form, falls as precipitation, moves along or into the ground surface, and returns to the atmosphere as vapor by means of evaporation and transpiration.

Imminent danger to the health and safety of the public means the existence of any condition or practice, or any violation of a permit or other requirements of the Act in a surface coal mining and reclamation operation, which could reasonably be expected to cause substantial physical harm to persons outside the permit area before the condition, practice, or violation can be abated. A reasonable expectation of death or serious injury before abatement exists if a rational person, subjected to the same condition or practice giving rise to the peril, would avoid exposure to the danger during the time necessary for abatement.

Impoundment means a closed basin, naturally formed or artificially built, which is dammed or excavated for the retention of water, sediment, or waste.

In situ processes means activities conducted on the surface or underground in connection with in-place distillation, retorting, leaching, or other chemical or

physical processing of coal. The term includes, but is not limited to, in situ gasification, in situ leaching, slurry mining, solution mining, bore hole mining, and fluid recovery mining.

Intermittent stream means --

(a) A stream or reach of a stream that drains a watershed of at least one square mile, or

(b) A stream or reach of a stream that is below the local water table for at least some part of the year, and obtains its flow from both surface runoff and ground water discharge.

Land use means specific uses or management-related activities, rather than the vegetation or cover of the land. Land uses may be identified in combination when joint or seasonal uses occur. Changes of land use or uses from one or the following categories to another shall be considered as a change to an alternative land use which is subject to approval by the regulatory authority.

(a) Cropland means land used for the production of adapted crops for harvest, alone or in a rotation with grasses and legumes, and includes row crops, small grain crops, hay crops, nursery crops, orchard crops, and other similar specialty crops. Land used for facilities in support of cropland farming operations which is adjacent to and/or an integral part of these operations is also included for purposes of these land use categories.

(b) Pastureland or land occasionally cut for hay. Land used primarily for the long-term production of adapted, domesticated forage plants to be grazed by livestock or occasionally cut and cured for livestock feed. Land used for facilities in support of pastureland or land occasionally cut for hay which is adjacent to or an integral part of these operations is also included.

(c) Grazingland. Includes both grass lands and forest lands where the indigenous vegetation is actively managed for grazing, browsing, or hay production. Land used for facilities in support of ranching operations which are adjacent to or an integral part of these operations is also included.

(d) Forestry. Land used or managed for the long-term production of wood, wood fiber, or wood derived products. Land used for facilities in support of forest harvest and management operations which is adjacent to and/or an integral part of these operations is also included.

(e) Residential. Includes single- and multiple-family housing, mobile home parks, and other residential lodgings. Land used for facilities in support of residential operations which is adjacent to or an integral part of these operations is also included. Support facilities include, but are not limited to, vehicle parking and open space that directly relate to the residential use.

(f) Industrial/Commercial. Land used for--

(1) extraction or transformation or materials, for fabrication of products, wholesaling of products and/or for long-term storage of products. This includes all heavy and light manufacturing facilities such as lumber and wood processing, chemical manufacturing, petroleum refining, and fabricated metal products manufacture. Land used for facilities in support of these operations which is adjacent or an integral part of that operation is also included. Support facilities include, but are not limited to, all rail, road, and other transportation facilities.

(2) retail or trade of goods and/or services, including, hotels, motels, stores, restaurants, and other commercial establishments. Land used for facilities in support of commercial operations which is adjacent to or an integral part of these operations is also included. Support facilities include, but are not limited to, parking, storage or shipping facilities.

(g) Recreation. Land used for public or private leisure-time use, including developed recreation facilities such as parks, camps, and amusement areas, as well as areas for less intensive uses such as hiking, canoeing, and other undeveloped recreational uses.

(h) Fish and Wildlife Habitat. Land dedicated wholly or partially to the production, protection or management of species of fish and wildlife.

(i) Developed water resources. Includes land used for storing water for beneficial uses such as stockponds, irrigation, fire protection, flood control, and water supply.

(j) Undeveloped land or no current use or land management. Land that is undeveloped or, if previously developed, land that has been allowed to return naturally to an undeveloped state, has been allowed to return to forest through natural succession.

Materially damage water quality or quantity means, with respect to alluvial valley floors, changes in the quality or quantity of the water supply to any portion of an alluvial valley floor where such changes are caused by surface coal mining and reclamation operations and result in changes that significantly and adversely affect the composition, diversity, or productivity of vegetation dependent on subirrigation, or which result in changes that would limit the adequacy of the water for flood irrigation of the irrigable land acreage existing prior to mining.

Mine plan area means those areas, which would be within the cumulative areas permitted during the estimated life of the mine. (A permit area will always be within or the same as the mine plan area. The affected area will always be within or the same as the permit area. The adjacent area may surround or extend beyond the mine plan area, permit area, or affected area.)

Moist bulk density means the weight of soil (oven dry) per unit volume. Volume is measured when the soil is at field moisture capacity (1/3 bar moisture tension). Weight is determined after drying the soil at 105° C.

Mulch means vegetation residues or other suitable materials that aid in soil stabilization and soil moisture conservation, thus providing micro-climatic conditions suitable for germination and growth.

Noxious plants means species that have been included on official State lists of noxious plants for the State in which the surface coal mining and reclamation operation occurs.

Operator means any person engaged in coal mining who removes or intends to remove more than 250 tons of coal from the earth or from coal refuse piles by mining within 12 consecutive calendar months in any one location.

Outslope means the face of the spoil or embankment sloping downward from the highest elevation to the toe.

Overburden means material of any nature, consolidated or unconsolidated, that overlies a coal deposit, excluding topsoil.

Perennial stream means a stream or part of a stream that flows continuously during all of the calendar year as a result of ground-water discharge or surface runoff. The term does not include intermittent stream or ephemeral stream.

Performance bond means a surety bond, collateral bond or self-bond or a combination thereof, by which a permittee assures faithful performance of all the requirements of the Act, this Chapter, a State, Federal or Federal lands program, and the requirements of the permit and reclamation plan.

Permanent diversion means a diversion remaining after surface coal mining and reclamation operations are completed which has been approved for retention by the regulatory authority and other appropriate State and Federal agencies.

Permit means a permit to conduct surface coal mining and reclamation operations issued by the State regulatory authority pursuant to a State program or by the Secretary pursuant to a Federal program. For purposes of the Federal lands program, permit means the document issued authorizing surface coal mining and reclamation operations on Federal lands, after approval of a mining plan by the Secretary, and, where a cooperative agreement pursuant to Section 523 of the Act has been executed, the State regulatory authority.

Permit area means the area of land designated on the permit maps as approved by the regulatory authority and includes, at a minimum, all area to be affected by the surface coal mining and reclamation operation during the term of the permit.

Permittee means a person holding or required by the Act or this Chapter to hold a permit to conduct surface coal mining and reclamation operations issued by a State regulatory authority pursuant to a State program, by the Director pursuant to a Federal program, by the Director pursuant to a Federal lands program, or, where a cooperative agreement pursuant to Section 523 of the Act has been executed, by the Director and the State regulatory authority.

Precipitation event means a quantity of water resulting from drizzle, rain, snow, sleet, or hail in a limited period of time. It may be expressed in terms of recurrence interval. As used in these regulations, precipitation event also includes that quantity of water emanating from snow cover as snowmelt in a limited period of time.

Prime farmland means those lands which are defined by the Secretary of Agriculture in 7 CFR Part 657 (Federal Register Vol. 4 No. 21) and which have historically been used for cropland.

Rangeland means land on which the natural potential (climax) plant cover is principally native grasses, forbs, and shrubs valuable for forage. This land includes natural grasslands and savannahs, such as prairies, and juniper savannahs, such as brush lands. Except for brush control, management is primarily achieved by regulating the intensity of grazing and season of use.

Recharge capacity means the ability of the soils and underlying materials to allow precipitation and runoff to infiltrate and reach the zone of saturation.

Reclamation means those actions taken to restore mined land as required by this Chapter to a post-mining land use approved by the regulatory authority.

Recurrence interval means the interval of time in which a precipitation event is expected to occur once, on the average. For example, the 10-year 24-hour precipitation event would be that 24-hour precipitation event expected to occur on the average once in 10 years.

Reference area means a land unit maintained under appropriate management for the purpose of measuring vegetation ground cover, productivity and plant species diversity that are produced naturally or by crop production methods approved by the regulatory authority. Reference areas must be representative of geology, soil, slope, and vegetation in the permit area.

Renewable resource lands means aquifers and areas for the recharge of aquifers and other underground waters, areas for agricultural or silvicultural production of food and fiber, and grazing lands.

Road means a surface right-of-way for purposes of travel by land vehicles used in coal exploration or surface coal mining and reclamation operations. A road consists of the entire area within the right-of-way, including the roadbed, shoulders, parking and side area, approaches, structures, ditches, surface, and such contiguous appendages as are necessary for the total structure. The term includes access and haul roads constructed, used, reconstructed, improved, or maintained for use in coal exploration or surface coal mining and reclamation operations, including use by coal-hauling vehicles leading to transfer, processing, or storage areas. The term does not include pioneer or construction roadways used for part of the road construction procedure and promptly replaced by a Class I, Class II, or Class III road located in the identical right-of-way as the pioneer or construction roadway. The term also excludes any roadway within the immediate mining pit area.

(a) Class I Road means a road that is utilized for transportation of coal.

(b) Class II Road means any road, other than Class I Road, planned to be used over a 6-month period or longer.

(c) Class III Road means any road, other than a Class I Road, planned to be used over a period of less than 6 months.

Safety factor means the ratio of the available shear strength to the developed shear stress, or the ratio of the sum of the resisting forces to the sum of the loading or driving forces, as determined by accepted engineering practices.

Sedimentation pond means a primary sediment control structure designed, constructed and maintained in accordance with 30 CFR 816.46 and including but not limited to a barrier, dam, or excavated depression which slows down water runoff to allow sediment to settle out. A sedimentation pond shall not include secondary sedimentation control structures such as straw dikes, riprap, check dams, mulches, dugouts and other measures that reduce overland flow velocity, reduce runoff volume or trap sediment to the extent that such secondary sedimentation structures drain to a sedimentation pond.

Significant, imminent environmental harm to land, air or water resources means -

(a) An environmental harm is an adverse impact on land, air, or water resources which resources include, but are not limited to, plant and animal life.

(b) An environmental harm is imminent, if a condition, practice, or violation exists which --

(1) Is causing such harm; or,

(2) May reasonably be expected to cause such harm at any time before the end of the reasonable abatement time that would be set under Section 521(a)(3) of the Act.

(c) An environmental harm is significant if that harm is appreciable and not immediately reparable.

Slope means average inclination of a surface, measured from the horizontal, generally expressed as the ratio of a unit of vertical distance to a given number of units of horizontal distance (e.g., 1v: 5h). It may also be expressed as a percent or in degrees.

Soil horizons means contrasting layers of soil parallel or nearly parallel to the land surface. Soil horizons are differentiated on the basis of field characteristics and laboratory data. The three major soil horizons are --

(a) A horizon. The uppermost mineral layer, often called the surface soil. It is the part of the soil in which organic matter is most abundant, and leaching of soluble or suspended particles is typically the greatest.

(b) B horizon. The layer that typically is immediately beneath the A horizon and often called the subsoil. This middle layer commonly contains more clay, iron, or aluminum than the A or C horizons.

(c) C horizon. The deepest layer of soil profile. It consists of loose material or weathered rock that is relatively unaffected by biologic activity.

Soil survey means a field and other investigation, resulting in a map showing the geographic distribution of different kinds of soils and an accompanying report that describes, classifies, and interprets such soils for use.

Special bituminous coal surface mines means those mines in existence on January 1, 1972, or mines adjoining or having a common boundary with those mines for which development began after August 3, 1977, that are located in the State of Wyoming and that are being mined or will be mined according to the following criteria:

(a) Surface mining takes place on a relatively limited site for an extended period of time. The surface opening of the excavation is at least the full size of the excavation and has a continuous border.

(b) Excavation of the mine pit follows a coal seam that inclines 15° or more from the horizontal, and as the excavation proceeds downward it expands laterally to maintain stability of the pitwall or as necessary to accommodate the orderly expansion of the total mining operation.

(c) The amount of material removed from the pit is large in comparison to the surface area disturbed.

(d) There is no practicable alternative to the deep open-pit method of mining the coal.

(e) There is no practicable way to reclaim the land as required in Subchapter K.

Spoil means overburden that has been removed during surface mining.

Stabilize means to control movement of soil, spoil piles, or areas of disturbed earth by modifying the geometry of the mass, or by otherwise modifying physical or chemical properties, such as by providing a protective surface coating.

State program means a program established by a State and approved by the Secretary pursuant to Section 503 of the Act to regulate surface coal mining and reclamation operations on non-Indian and non-Federal lands within that State, according to the requirements of the Act and this Chapter. If a cooperative agreement under Part 745 has been entered into, a State program may apply to Federal lands, in accordance with the terms of the cooperative agreement.

Steep slope means any slope of more than 20° or such lesser slope as may be designated by the regulatory authority after consideration of soil, climate, and other characteristics of a region or State.

Subirrigation means, with respect to alluvial valley floors, the supplying of water to plants from underneath or from a semi-saturated or saturated subsurface whose water is available for use by vegetation. Subirrigation may be identified by:

(a) Diurnal fluctuation of the water table, due to the differences in night-time and daytime evapotranspiration rates;

(b) Increasing soil moisture from a portion of the root zone down to the saturated zone, due to capillary action;

(c) Mottling of the soils in the root zones;

(d) Existence of an important part of the root zone within the capillary fringe or water table of an alluvial aquifer; or

(e) An increase in streamflow or a rise in ground water levels, shortly after the first killing frost on the valley floor.

Substantially disturb means, for purposes of coal exploration, to significantly impact upon land, air or water resources by such activities as blasting, mechanical excavation, drilling or altering coal or water exploratory holes or wells, construction of roads and other access routes, and the placement of structures, excavated earth, or other debris on the surface of land.

Surface mining activities means those surface coal mining and reclamation operations incident to the extraction of coal from the earth by removing the materials over a coal seam, before recovering the coal, by auger coal mining, or by recovery of coal from a deposit that is not in its original geologic location.

Suspended solids or non-filterable residue, expressed as milligrams per liter, means organic or inorganic materials carried or held in suspension in water which are retained by a standard glass fiber filter in the procedure outlined by the Environmental Protection Agency's regulations for waste water and analyses (40 CFR 136).

Temporary diversion means a diversion of a stream or overland flow which is used during coal exploration or surface coal mining and reclamation operations and not approved by the regulatory authority to remain after reclamation as part of the approved postmining land use.

Topsoil means the A soil horizon layer of the three major soil horizons.

Toxic-forming materials means earth materials or wastes which, if acted upon by air, water, weathering, or microbiological processes, are likely to produce chemical or physical conditions in soils or water that are detrimental to biota or uses of water.

Toxic mine drainage means water that is discharged from active or abandoned mines or other areas affected by coal exploration or surface coal mining and reclamation operations, which contains a substance that through chemical action or physical effects is likely to kill, injure, or impair biota commonly present in the area that might be exposed to it.

Unconsolidated streamlaid deposits holding streams means with respect to alluvial valley floors all flood plains and terraces located in the lower portions of topographic valleys which contain perennial or other streams with channels that are greater than 3 feet in bankfull width and greater than 0.5 feet in bankfull depth.

Underground development waste means waste rock mixtures of coal, shale, claystone, siltstone, sandstone, limestone, or related materials that are excavated, moved, and disposed of during development and preparation of areas incident to underground mining activities.

Underground mining activities means a combination of --

(a) Surface operations incident to underground extraction of coal or in situ processing, such as construction, use, maintenance, and reclamation of roads, above-ground repair areas, storage areas, processing areas, shipping areas, areas upon which are sited support facilities including hoist and ventilating ducts, areas utilized for the disposal and storage of waste, and areas on which materials incident to underground mining operations are placed; and

(b) Underground operations such as underground construction, operation, and reclamation of shafts, adits, underground support facilities, in situ processing, and underground mining, hauling, storage, and blasting.

Undeveloped rangeland means, for purposes of alluvial valley floors, lands where the use is not specifically controlled and managed.

Upland areas means, with respect to alluvial valley floors, those geomorphic features located outside the floodplain and terrace complex, such as isolated higher terraces, alluvial fans, pediment surfaces, landslide deposits, and surfaces covered with residuum, mud flows or debris flows, as well as highland areas underlain by bedrock and covered by residual weathered material or debris deposited by sheetwash, rillwash, or windblown material.

Valley fill means a fill structure consisting of any material other than coal waste and organic material that is placed in a valley where side slopes of the fill measured at the steepest point are greater than 20° or the profile of the hollow from the toe of the fill to the top of the fill is greater than 10°.

Water table means the upper surface of a zone of saturation, where the body of ground water is not confined by an overlying impermeable zone.

§701.11
Applicability.

(a) Any person who conducts surface coal mining and reclamation operations on non-Indian or non-Federal lands on or after 8 months from the date of approval of a State program or implementation of a Federal program shall have a permit issued pursuant to the applicable State or Federal program. However, under conditions specified in 30 CFR 771.13(b), a person may continue operations after 8 months from the date of approval of a State program or implementation of a Federal program.

(b) Any person who conducts surface coal mining and reclamation operations on Federal lands pursuant to a mining plan approved pursuant to 30 CFR Part 211 prior to the effective date of Subchapter D of this Chapter must obtain a new permit pursuant to 30 CFR Part 741 on or after eight months from the date of approval of a State program or implementation of a Federal program. However, under conditions specified in 30 CFR 741.11(d) a person may continue such operations after eight months after the date of approval of a State program or implementation of a Federal program.

(c) After the effective date of Subchapter D of this Chapter, any person intending to start surface coal mining and reclamation operations on Federal lands or to increase the acreage to be mined beyond that in a mining plan approved pursuant to 30 CFR Part 211 before the effective date of Subchapter D, shall obtain a permit pursuant to 30 CFR Subchapter D.

(d) The requirements of Subchapter K of this Chapter shall be effective and shall apply to each surface coal mining and reclamation operation which is required to obtain a permit under the Act, on the earliest date upon which the Act and this Chapter require a permit to be obtained, except: (1) as provided in paragraph (e) of this section; and (2) that any surface coal mining and reclamation operation on Federal lands shall comply with Subchapter K of this Chapter as required in 30 CFR 741.11.

(e)(1) Each structure used in connection with or to facilitate a coal exploration or surface coal mining and reclamation operation shall comply with the performance standards and the design requirements of Subchapter K of this Chapter, except that -

(i) An existing structure which meets the performance standards of Subchapter K of this Chapter but does not meet the design requirements of Subchapter K of this Chapter may be exempted from meeting those design requirements by the regulatory authority. The regulatory authority may grant this exemption only as part of the permit application process after obtaining the information required by 30 CFR 780.12 or 784.12 and making the findings required in 30 CFR 786.21 or 30 CFR Part 741.

(ii) If the performance standard of Subchapter B of this Chapter is at least as stringent as the comparable performance standard of Subchapter K of this Chapter, an existing structure which meets the performance standards of Subchapter B of this Chapter may be exempted by the regulatory authority from meeting the design requirements of Subchapter K of this Chapter. The regulatory authority may grant this exemption only as part of the permit application process after obtaining the information required by 30 CFR 780.12 or 784.12 and make the findings required in 30 CFR 786.21 or 30 CFR Part 741.

(iii) An existing structure which meets a performance standard of Subchapter B of this Chapter which is less stringent than the comparable performance standards of Subchapter K of this Chapter shall be modified or reconstructed to meet the design standard of Subchapter K of this Chapter pursuant to a compliance plan approved by the regulatory authority only as part of the permit application as required in 30 CFR 780.12 or 784.12 and according to the findings required by 30 CFR 786.21 or 30 CFR Part 741; or

(iv) An existing structure which does not meet the performance standards of Subchapter B of this Chapter and which the applicant proposes to use in connection with or to facilitate the coal exploration or surface coal mining and reclamation operation shall be modified or reconstructed to meet the design standards of Subchapter K prior to issuance of the permit.

(2) The exemptions provided in paragraph (c)(1)(i) and (c)(1)(ii) shall not apply to:

(i) The requirements for existing and new waste piles used either temporarily or permanently as dams or embankments; and

(ii) The requirements to restore the approximate original contour of the land.

(f)(1) Any person conducting coal exploration on non-Federal and non-Indian lands on or after the date on which a State program is approved or a Federal program implemented, shall either file a notice of intention to explore or obtain approval of the regulatory authority, as required by 30 CFR 776.

(2) Coal exploration performance standards in 30 CFR Part 815 shall apply to coal exploration on non-Federal and non-Indian lands which substantially disturbs the natural land surface, 2 months after approval of a State program or implementation of a Federal program.

PART 707 -- EXEMPTION FOR COAL EXTRACTION INCIDENT TO GOVERNME HIGHWAY OR OTHER CONSTRUCTION

Sec.

707.1 Scope.
707.4 Responsibility.
707.5 Definitions.
707.11 Applicability.
707.12 Information to be maintained on the site.

Authority : Sec. 102, 201, 501, and 528, Pub. L. 95-87, 91 Stat. 448, 449, 467, and 514 (30 U.S.C. 1202, 1211, 1251, 1278).

§707.1
Scope.

(a) This Part establishes the procedures for determining those surface coal mining and reclamation operations which are exempt from the Act and this Chapter because the extraction of coal is an incidental part of Federal, State, or local government-financed highway or other construction.

(b) This Part exempts the extraction of coal which is incidental to government-financed construction from the requirements of the Act and this Chapter, if that extraction meets specified criteria which ensure that the construction is government-financed and that the extraction of coal is incidental to it.

§707.4
Responsibility.

(a) The regulatory authority is responsible for enforcing the requirements of this Part.

(b) Any person conducting coal extraction as an incidental part of government-financed construction is responsible for possessing, on the site of the extraction operation, the documentation required by 30 CFR 707.12.

§707.5
Definitions.

As used in this Part, the following terms have the specified meaning:

Extraction of coal as an incidental part means the extraction of coal which is necessary to enable the construction to be accomplished. For purposes of this Part, only that coal extracted from within the right-of-way, in the case of a road, railroad, utility line or other such construction, or within the boundaries of the area directly affected by other types of government-financed construction, may be considered incidental to that construction. Extraction of coal outside the right-of-way or boundary of the area directly affected by the construction shall be subject to the requirements of the Act and this Chapter.

Government financing agency means a Federal, State, county, municipal, or local unit of government, or a department, bureau, agency or office of the unit which, directly or through another unit of government, finances construction.

Government-financed construction means construction funded 50 percent or more by funds appropriated from a government financing agency's budget or obtained from general revenue bonds, but shall not mean government financing agency guarantees, insurance, loans, funds obtained through industrial revenue bonds or their equivalent, or in-kind payments.

§707.11

Applicability.

(a) Coal extraction which is an incidental part of government-financed construction is exempt from the Act and this Chapter.

(b) Any person who conducts or intends to conduct coal extraction which does not satisfy paragraph (a) of this Section shall not proceed until a permit has been obtained from the regulatory authority under a State, Federal or Federal lands program.

707.12
Information to be maintained on site.

Any person extracting coal incident to government-financed highway or other construction who extracts more than 250 tons of coal or affects more than two acres shall maintain, on the site of the extraction operation and avaiable for inspection, documents which show--

(a) A description of the construction project;

(b) The exact location of the construction, right-of-way or the boundaries of the area which will be directly affected by the construction; and

(c) The government agency which is providing the financing and the kind and amount of public financing, including the percentage of the entire construction costs represented by the government financing.

SUBCHAPTER C -- PERMANENT REGULATORY PROGRAMS FOR NON-FEDERAL AND NON-INDIAN LANDS

I86

PART 730 -- GENERAL REQUIREMENTS

Sec.	
730.1	Scope.
730.2	Objectives.
730.4	Responsibilities.
730.5	Definitions.
730.11	Inconsistent and more stringent State laws and regula
730.12	Requirement for regulatory programs in States.

Authority : Sections 102, 201(c), 501(b), 503, 504, 505, and 521 of Pub. L. 95-87, 91 Stat. 448, 449(c), 468(b), 470, 471, 473, and 504 (30 U.S.C. 1202, 1211(c), 1251(b), 1253, 1254, 1255, 1271).

§730.1
Scope.

This Subchapter sets forth standards and procedures for the submission, review, and approval or disapproval of State programs, for coal exploration and surface coal mining and reclamation operations on non-Indian and non-Federal lands. In addition it sets forth criteria and procedures for amending approved programs, substituting Federal enforcement for State enforcement of State programs, and withdrawing approval of those programs not adequately implemented or maintained.

Requirements are also included for State program grants and for the adoption of a Federal program in a State which does not have a State program or which has failed to implement, enforce or maintain an approved State program consistent with this Subchapter.

§730.2
Objectives.

This Subchapter establishes criteria and procedures for -

(a) A State to follow in preparing and submitting a program or a program amendment;

(b) The review and approval or disapproval of programs and amendments;

(c) Substituting Federal enforcement of State programs and for withdrawing approval of State programs;

(d) Establishing a grants program to assist States in developing, administering and enforcing State programs; and

(e) The promulgation, review, implementation, administration and withdrawal of Federal programs.

§730.4
Responsibilities.

(a) A State that wishes to regulate coal exploration and surface coal mining and reclamation operations on non-Federal and non-Indian lands within its boundaries shall submit to the Regional Director a proposed State program under 30 CFR 731.

(b) A State that wishes to receive a program development grant or an administration and enforcement grant shall submit its application to the Regional Director under 30 CFR 735.

(c) The Regional Director shall receive and review proposed programs and proposed amendments to an approved State program and recommend approval or disapproval of the proposed programs or program amendments to the Director and shall receive, review and approve grant applications.

(d) The Director shall review each proposed State program and shall recommend approval or disapproval to the Secretary.

(e) The Secretary shall approve or disapprove a proposed State program.

(f) The Director shall review and approve or disapprove amendments to a State program.

(g) The Director shall either substitute Federal enforcement for a State program or recommend withdrawal of approval of a State program to the Secretary if the State program is not properly administered, maintained or enforced.

(h) The Secretary shall withdraw approval of a State program as recommended by the Director if substituted Federal enforcement will not be an effective remedy.

(i) Each State having an approved State program shall implement, administer and enforce it in accordance with the Act, the provisions of the State program as approved by the Secretary, and this Chapter.

(j) The Director shall promulgate and implement a Federal program under Part 736 of this Chapter for a State that does not have an approved State program or for a State whose approved program has been withdrawn by the Secretary because it has not been properly administered, maintained or enforced.

§730.5
Definitions.

As used in this Subchapter unless otherwise indicated Consistent with and in accordance with mean:

(a) With regard to the Act, the State laws and regulations are no less stringent than, meet the minimum requirements of and include all applicable provisions of the Act.

(b) With regard to the Secretary's regulations, the State laws and regulations are no less stringent than and meet the applicable provisions of the regulations of this Chapter.

§730.11
Inconsistent and more stringent State laws and regulations.

(a) No State law or regulation shall be superseded by any provision of the Act or the regulations of this Chapter, except to the extent that the State law or regulation is less stringent than, or precludes implementation of, requirements of the Act or this Chapter. The Director shall publish in the Federal Register any State law or regulation determined by the Director, with the concurrence of the Solicitor, to be inconsistent with the Act or this Chapter.

(b) Any State law or regulation which provides for more stringent land use and environmental controls and regulations of coal exploration and surface coal mining and reclamation operations than do the provisions of the Act and this Chapter, or which provides for the control and regulation of coal exploration and surface coal mining and reclamation operations for which no provision is contained in the Act or this Chapter, shall not be construed to be inconsistent with the Act or this Chapter.

§730.12
Requirement for regulatory programs in States.

(a) Not later than June 3, 1980, for each State in which coal exploration and surface coal mining and reclamation operations are or may be conducted on non-Federal and non-Indian land, either a State program or a Federal program adopted under this Subchapter shall be in effect. However, the inability of a State to take any action the purpose of which is to prepare, submit or enforce a State program, or any part thereof, because the action is enjoined by the issuance of an injunction by any court of competent jurisdiction shall not result in the imposition of a Federal program for regulation of surface coal mining and reclamation operations. A State program subject to an injunction shall be conducted by the State pursuant to Section 502 of the Act until such time as the injunction terminates or for one year from issuance of the injunction, whichever is shorter, at which time the requirements of Sections 503 and 504 shall again be fully applicable. States in which no coal exploration or surface coal mining and reclamation operations are in existence or planned on June 3, 1980, on non-Federal and non-Indian lands but in which such exploration or operations may occur at some later date, shall have a State or Federal program in effect before commencement of any such exploration or operations.

(b) The State shall notify the Director of the issuance of any injuction which prevents or prohibits the State from preparing, submitting or enforcing a State program or portion thereof.

PART 731 -- SUBMISSION OF STATE PROGRAMS

Sec.

731.1 Scope.
731.11 Eligibility.
731.12 Submission of State programs.
731.13 Standards and procedures for approval of alternatives to provisions of the regulations of this Chapter.
731.14 Content requirements for program submissions.

Authority : Sections 102, 201(c), 501(b) and 503(a), Pub. L. 95-87, 91 Stat. 448, 449(c), 468(b), 470 (30 U.S.C. 1202, 1211(c), 1251(b), 1253).

§731.1
Scope.

This Part establishes standards and procedures for the preparation and submission of State programs.

§731.11
Eligibility.

Any State in which coal exploration and surface coal mining and reclamation operations are being conducted or may be conducted may submit a proposed State program to the Regional Director in whose region the State is located.

§731.12
Submission of State programs.

(a) Not later than August 3, 1979, each State that wishes to regulate coal exploration and surface coal mining and reclamation operations on non-Federal and non-Indian lands within its boundaries shall submit 3 copies of a proposed program to the Regional Director for the region in which that State is located.

(b) States may submit a proposed program at any time later than June 3, 1980, if--

(1) Implementation of a Federal program under 30 CFR 736 has been completed; or

(2) There have been no surface coal mining and reclamation operations since August 3, 1977, but coal exploration or surface coal mining operations are anticipated; or

(3) A State program has been enjoined by a court of competent jurisdiction, in which case the requirements of 30 CFR 730.12 shall apply.

(c) The State shall retain sufficient copies of the program for public inspection under 30 CFR 732.11(a) and 30 CFR 732.12(a).

§731.13
Standards and procedures for approval of alternatives to provisions of the regulations of this Chapter.

As part of its program submission or as an amendment to an approved State program, a State may request approval for alternatives to the provisions of the regulations of this Chapter. For each alternative provision the State shall--

(a) Identify the provision in the regulations of this Chapter for which the alternative is requested;

(b) Describe the alternative proposed and provide statutory or regulatory language to be used to implement the alternative and,

(c) Explain how and submit data, analysis and information, including identification of sources, demonstrating--

(1) that the proposed alternative will be in accordance with the applicable provisions of the Act and be consistent with the regulations; and

(2) that the proposed alternative is necessary because of local requirements or local environmental or agricultural conditions.

§731.14
Content requirements for program submissions.

The program shall demonstrate that the State has the capability of carrying out the provisions of the Act and this Chapter and achieving their purposes by providing a complete description of the system for implementing, administering and enforcing a State program including, at a minimum --

(a) A copy of the State laws in effect at the time of submission of the program which regulate coal exploration and surface coal mining and reclamation operations, a copy of any State regulations promulgated to implement and enforce those State laws and any amendments to State laws and regulations which are in the process of enactment and have been determined by the State to be essential to allow for program approval;

(b) Copies of other State laws and regulations directly affecting the regulation of coal exploration and surface coal mining and reclamation operations, and amendments to such other laws or regulations which affect the regulation of coal exploration and surface coal mining and reclamation operations which are being considered or are pending;

(c) A legal opinion from the Attorney General of the State or the chief legal officer of the State regulatory authority stating that the State has the legal authority or will have legal authority through enactment of new laws and regulations or amendments to laws and regulations which are in the process of enactment to implement, administer and enforce the program and to regulate coal exploration and surface coal mining and reclamation operations in accordance with the Act and consistent with this Chapter. The opinion shall include a section-by-section comparison of the State's laws and regulations and amendments which are in the process of enactment with the Act and this Chapter, explaining any differences and their legal effect;

(d) A copy of the legal document which designates one State agency as the regulatory authority and authorizes that agency to implement, administer and enforce a State program and to submit grant applications and receive and administer grants under this Subchapter;

(e) A description, including appropriate charts, of the existing and proposed structural organization of the agency designated as the regulatory authority and of other agencies or applicable divisions or departments of those agencies which will have duties in the State program, indicating the coordination system between these agencies and lines of authority and the staffing functions within each agency and between agencies;

(f) A copy of supporting agreements between agencies which will have duties in the State program;

(g) Narrative descriptions, flow charts or other appropriate documents indexed according to sections and subsections of the Act and Sections and Subsections of this Chapter, of the proposed systems for--

(1) Receiving notices of intention to explore and applications for new, revised or renewed approvals for coal exploration and permits for surface coal mining and reclamation operations, reviewing those applications, approving or disapproving requests for exploration approvals, permits, permit revisions and renewals;

(2) Assessing fees for permit applications;

(3) Implementing, administering and enforcing a system of performance bonds and liability insurance or other equivalent guarantees;

(4) Inspecting and monitoring coal exploration and surface coal mining and reclamation operations;

(5) Enforcing the administrative, civil and criminal sanctions of State laws and regulations for violation of any requirement of those laws relating to the regulation of coal exploration and surface coal mining and reclamation operations;

(6) Administering and enforcing the permanent program performance standards;

(7) Assessing and collecting civil penalties;

(8) Issuing public notices and holding public hearings;

(9) Coordinating issuance of permits required under the Act and this Chapter with other State, Federal and local agencies;

(10) Consulting with State and Federal agencies having responsibility for the protection or management of fish and wildlife and related environmental values, and historic, cultural, and archeological resources;

(11) Designating lands unsuitable for surface coal mining operations, including provisions for terminating those designations and for public participation in the designation process;

(12) Monitoring, reviewing and enforcing restrictions against direct and indirect financial interests of State employees in surface coal mining and reclamation operations;

(13) Training, examining and certifying blasters, except that no State program is required to implement this provision until six months after the Federal regulations for the provision have been promulgated;

(14) Providing for public participation in the development, revision and enforcement of State regulations, the State program, and permits under the State program;

(15) Providing administrative and judicial review of State program actions; and

(16) Providing a small operator assistance program consistent with Part 795 of this Chapter.

(h) Statistical information describing coal exploration and surface coal mining and reclamation operations in the State, adequate to demonstrate that the provisions of the State program and the resources available to it are sufficient when compared to the current and projected coal mining activities in the State. Such information may include--

(1) Tonnage of coal produced annually for each of the three years prior to submission of the proposed program, for both underground and surface mining activities, according to type of mining, such as contour, area, mountaintop removal, or underground with the source of the information;

(2) Number of mines producing coal during each of the three years prior to submission of the proposed program, for both underground and surface mining activities, according to the type of coal produced (bituminous, anthracite or lignite);

(3) Acreage approved or permitted for coal exploration and underground and surface mining activities during each of the three years prior to submission of the proposed program;

(4) A map showing the geographic distribution, by county, of existing underground and surface mining activities, for the period immediately preceding submission of the proposed program;

(5) Number of applications for permits, revisions and renewals of permits for coal exploration and surface coal mining and reclamation operations received by the State agency annually for each of the three years preceding submission of the proposed program;

(6) Frequency of State inspections for each permit during the interim regulatory program under Subchapter B of this Chapter;

(7) Number of coal exploration operations and underground and surface mining activities under permit and actively mined, the number of exploration operations and permits being actively reclaimed and the number of permits on which reclamation activities are virtually complete (except for the growth of required vegetation at the end of the month preceding submission); and

(8) Projections, if available from existing studies, of the annual coal production and geographic distribution of coal exploration and surface coal mining and reclamation operations, for the next 3 to 5 years after the date of submission of the proposed program, or the period encompassed by existing studies, according to tonnage, type of coal produced and whether production will be by underground or surface mining activities.

(i) A summary table of the existing and proposed State program staff, showing job functions, titles and required job experience and training;

(j) A description of how the staffing proposed for the State program will be adequate to carry out the functions, including permitting, inspection and legal actions for the projected work-load to ensure that coal exploration and surface coal mining and reclamation operations will be regulated in accordance with the requirements of the Act and this Chapter;

(k) An explanation of projected use of professional and technical personnel that are available to the regulatory authority from other agencies including the information required in Section 731.14(i);

(l) A description of the actual capital and operating budget, including source of funds, used or proposed to administer the State program for the prior and current fiscal years, and the projected annual budget for each of the next 2 fiscal years, assuming supplemental funding pursuant to an approved State program and grants under 30 CFR 735;

(m) A description of the existing and proposed physical resources for use in the program, such as vehicles and equipment and office and laboratory space, including office locations;

(n) A description of special environmental protection performance standards and performance bond provisions, if any, of the State for the purpose of regulating anthracite surface coal mining, as provided in Section 529 of the Act, 30 CFR 785.11, 809, and 820;

(o) A brief description of the other programs administered by the regulatory authority; and,

(p) Such other information as the Director may require relating to the descriptions and demonstrations required by a State under 30 CFR 731.13 and this Section.

PART 732 -- PROCEDURES AND CRITERIA FOR APPROVAL OR DISAPPROVA STATE PROGRAM SUBMISSIONS

Sec.	
732.1	Scope.
732.4	Responsibility.
732.11	Review by the Regional Director.
732.12	Notice and public hearing requirements.
732.13	Decision by the Secretary.
732.14	Resubmission of State programs.
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732.16	Terms and conditions for State programs.
732.17	State program amendments.

Authority : Sections 102, 201(c), 501(b), 503, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 521, and 522, Pub. L. 95-87, 91 Stat. 448, 449(c), 468(b), 470, 473, 474, 478, 479, 480, 483, 484, 485, 486, 495, 498, 499, 501, 504, and 507 (30 U.S.C. 1202, 1211(c), 1251(b), 1253 1256, 1257, 1258, 1259, 1260, 1261, 1262, 1263, 1264, 1265, 1266, 1267, 1268, 1269, 1271, and 1272).

§732.1
Scope.

This Part sets forth criteria and procedures for decisions to approve or disapprove submissions of State programs and program amendments, including requirements for public participation in the process of approval or disapproval.

§732.4
Responsibility.

(a) The Regional Director and the Director shall review program submissions, receive public comments, hold public hearings, and the Director shall recommend approval or disapproval of programs to the Secretary.

(b) The Secretary shall approve or disapprove programs.

(c) The Regional Director shall review program amendments and recommend approval or disapproval to the Director. The Director shall approve or disapprove program amendments.

§732.11
Review by the Regional Director.

(a) Immediately upon receipt of a proposed State program, the Regional Director shall publish in the Federal Register and in a newspaper of general circulation in the State a notice meeting the following requirements:

(1) The notice shall include the date of the submission of the program and a summary of the program's contents. It shall also indicate that the full text of the program submission is available for review during regular business hours at the office of the Regional Director and at the central office and each field office of the state agency responsible for the submission, and that a file for public comments is available for review by the public at the Office of the Regional Director.

(2) The notice shall include the location of each office within the State where copies of the program submission are available for review.

(3) The notice shall indicate that the program is being reviewed by the Regional Director and shall afford interested persons 30 days from the date of publication of the notice to submit written comments.

(4) The notice shall set a date 30 days from publication of the notice for a public review meeting to discuss the program submission and its completeness. It shall also identify the location in the State where the meeting will be held.

(b) Within 60 days after receipt of a program, the Regional Director, after considering the public comments results of the public review and other relevant information, shall determine whether the program submission contains all of the elements required by Section 731.14 and shall publish the determination in the Federal Register. If the program contains the elements required by Section 731.14, the submission is complete.

(c) If one or more required elements are missing, the Regional Director shall identify the missing elements to the State and in the notice in the Federal Register.

(d) If missing parts are identified, the State shall make appropriate additions and may make modifications and shall return the submission including enacted laws to the Regional Director for review no later than November 15, 1979. Program submissions that do not contain all required and fully enacted laws and regulations by Nov 15, 1979 will be disapproved pursuant to the procedures for the Secretary's initial decision in Section 732.13. Initial disapproval does not preclude resubmission pursuant to Section 732.14.

§732.12
Notice and public hearing requirements.

(a) Following opportunity for additions and modifications but no later than November 20, 1979 the Regional Director shall publish in the Federal Register and in a newspaper of general circulation in the State a notice meeting the following requirements:

(1) The notice shall include the date of submission of the program and any additions or modifications, the date of the

Regional Director's determination of completeness, a summary of its contents and indicate that it is available for inspection during regular business hours at the office of the Regional Director and at the central office and each field office of the State agency responsible for the submission. In addition, the notice in the Federal Register shall include the complete text of the proposed or enacted State statutes and regulations in the proposed State program.

(2) The notice shall include the location of each office within the State where copies of the program submission are available for review.

(3) The notices shall afford interested persons an opportunity to submit, in writing to the Regional Director, data and comments on the program. The comment period shall end on a date following the public hearing scheduled to be held under paragraph (b) of this Section, and that date shall be included in notices.

(3) The notices shall identify the time and location within the State at which the Office will hold the public hearing under paragraph (b) of this Section.

(b) A public hearing shall be held by the Regional Director no sooner than 30 days following the publication of the notice required by paragraph (a) of this Section. The hearing shall be informal and follow legislative procedures.

(1) The format and the rules of procedure for each hearing shall be determined by the Regional Director and published in the notices required by Subsection 732.12(a).

(2) If enacted laws and regulations are not submitted as part of the program submission on or before November 15, 1979, the public hearing will still be held but the program shall be disapproved pursuant to the procedures for the Secretary's initial decision in section 732.13.

(c) Copies of written comments shall be available for public inspection and copying at the offices of the Regional Director and the State agency responsible for submitting the program.

(d) Upon completion of the hearing, the transcript, written presentations, exhibits, and copies of all comments shall be transmitted by the Regional Director to the Director, together with a recommended decision from the Regional Director.

(e) Upon receipt of the Regional Director's recommendation, the Director shall consider all relevant information including information obtained from public hearings and comments, and shall recommend to the Secretary that the program be approved or disapproved, in whole or in part. The recommended decision shall specify the reasons for the recommendation.

§732.13
Decision by the Secretary.

(a) After consideration of the information accompanying the Director's recommendation and the Director's recommendation and findings, the Secretary shall issue to the State in writing, either a decision approving or an initial decision disapproving the State program, in whole or in part.

(b) A program shall not be approved until the Secretary has--

(1) Solicited and publicly disclosed the views of the Administrator of the Environmental Protection Agency, the Secretary of Agriculture, and the heads of other Federal agencies concerned with or having special expertise relevant to the program as proposed; and

(2) Obtained written concurrence of the Administrator of the Environmental Protection Agency with respect to those aspects of a State program which relate to air or water quality standards promulgated under the authority of the Federal Water Pollution Control Act, as amended (33 U.S.C. Section 1251 et seq.), or the Clean Air Act, as amended (42 U.S.C. Section 7401 et seq.).

(c) The Secretary's decision shall include the findings upon which it is based. The decision and findings shall be mailed to the State.

(d) The Secretary shall issue his decision within 6 months of the Regional Director's receipt of a program submission.

(e) All decisions approving or disapproving a program, in whole or in part, shall be published in the Federal Register , indicating, in the event of disapproval, that the State has 60 days to submit a revised program for consideration.

(f) If the Secretary disapproves a program, in whole or in part, the State shall have 60 days from the date of publication of the Federal Register notice to submit a revised program to the Regional Director for reconsideration. The procedures of Sections 732.11 and 732.12 will then apply to the revised State program, except that the time allowed for public review and comment may be shortened to not less than 15 days. The Secretary shall either approve or disapprove the revised program, within 60 days from the date of submission of the revised program and publish that decision and reasons for the decision in the Federal Register. A decision disapproving the revised program constitutes the final decision by the Department disapproving that program submission in its entirety.

(g) If a revised State program is not submitted by a State within sixty days of an initial disapproval under Subsection 732.13(a), the Secretary shall disapprove the initial program submission in its entirety. This decision shall constitute the final decision by the Secretary. This decision and the basis for it shall be published in the Federal Register.

(h) A decision by the Secretary approving a program submission establishes a State program for the State which submitted it and constitutes the final decision by the

Department. The Secretary shall not give his approval unless the program submission can be approved in whole.

(i) The Secretary may conditionally approve a State program where the program is found to have minor deficiencies, provided:

(1) The deficiences are of such a size and nature so as to render no part of a proposed State program incomplete,

(2) The State has initiated and is actively proceeding with steps to correct the deficiencies,

(3) The State agrees in writing to correct such deficiencies within a time established by the Secretary and stated in the conditonal approval; and,

(4) The conditionally approved State program shall terminate if the deficiencies have not been corrected by the date set forth in the Secretary's decision under Subparagraph (i)(3) above.

§732.14

Resubmission of State programs.

If, by a final decision, the program is disapproved, the State may submit another proposed State program to the Regional Director at any time after implementation of a Federal program for that State under 30 CFR 736. Resubmitted State programs must meet the requirements of 30 CFR 731.14 and will be acted upon pursuant to 30 CFR 732.11-732.16.

§732.15

Criteria for approval or disapproval of State programs.

The Secretary shall not approve a State program unless, on the basis of information contained in the program submission, comments, testimony and written presentations at the public hearings, and other relevant information, the Secretary finds that--

(a) The program provides for the State to carry out the provisions and meet the purposes of the Act and this Chapter within the State and that alternative approaches to the requirements of this Chapter which are proposed pursuant to 30 CFR 731.13 will be no less stringent than and will meet the minimum requirements of the Act and the regulations of this Chapter;

(b) The State regulatory authority has the authority under State laws and regulations pertaining to coal exploration and surface coal mining and reclamation operations and the State program includes provisions to --

(1) Implement, administer and enforce all applicable requirements consistent with Subchapter K of this Chapter;

(2) Implement, administer and enforce a permit system consistent with the regulations of Subchapter G of this Chapter and prohibit surface coal mining and reclamation operations without a permit issued by the regulatory authority;

(3) Regulate coal exploration consistent with 30 CFR 776 and 815 and prohibit coal exploration that does not comply with 30 CFR 776 and 815;

(4) Control coal mining incidental to government-financed construction consistent with 30 CFR 707;

(5) Enter, inspect and monitor all coal exploration and surface coal mining and reclamation operations on non-Indian and non-Federal land within the State consistent with the requirements of Section 517 of the Act and Subchapter L of this Chapter;

(6) Implement, administer and enforce a system of performance bonds and liability insurance, or other equivalent guarantees, consistent with the requirements of Subchapter J of this Chapter;

(7) Provide for civil and criminal sanctions for violations of the State law, regulations, and conditions of permits and exploration approvals including civil and criminal penalties in accordance with Section 518 of the Act and consistent with 30 CFR 845, including the same or similar procedural requirements;

(8) Issue, modify, terminate and enforce notices of violation, cessation orders and show cause orders in accordance with Section 521 of the Act and consistent with the requirements of Subchapter L of this Chapter, including the same or similar procedural requirements;

(9) Designate areas as unsuitable for surface coal mining consistent with Subchapter F of this Chapter;

(10) Provide for public participation in the development, revision and enforcement of State regulations and the State program, consistent with public participation requirements of the Act and this Chapter;

(11) Monitor, review and enforce the prohibition against indirect or direct financial interests in coal mining operations, by employees of the State regulatory authority, consistent with 30 CFR 705;

(12) Require the training, examination and certification of persons engaged in or responsible for blasting and the use of explosives consistent with regulations issued by the Secretary, except that no State program is required until six months after Federal regulations to implement this requirement have been promulgated;

(13) Provide for small operator assistance consistent with Part 795 of this Chapter;

(14) Provide for the protection of State employees of the regulatory authority in accordance with the protection afforded Federal employees under Section 704 of the Act;

(15) Provide for administrative review of State program actions, in accordance with Section 525 of the Act and Subchapter L of this Chapter; and

(16) Cooperate, coordinate with, and provide documents and other information to the Office under the provisions of this Chapter.

(c) The State laws and regulations and the State program do not contain provisions which would interfere with or preclude implementation of those in the Act and this Chapter.

(d) The State regulatory authority and other agencies having a role in the State program have sufficient legal, technical and administrative personnel and sufficient funding to implement, administer and enforce the provisions of the program, the requirements of paragraph (b) of this Section, and other applicable State and Federal laws.

§732.16
Terms and conditions for State programs.

Terms and conditions for the implementation, administration, and operation of a State program may be established by the Director as necessary, including, but not limited to--

(a) Establishing a system for regularly reporting to the Office information collected by the State regulatory authority in the conduct of the State program;

(b) Providing the Office with access to books and records of the regulatory authority upon request.

§732.17
State program amendments.

(a) This Section applies to any alteration of an approved State program whether accomplished on the initiative of the State regulatory authority or the Director. Such alterations are referred to in this Section as "amendments".

(b) The State regulatory authority shall promptly notify the Director, in writing, of any significant events or proposed changes which affect the implementation, administration or enforcement of the approved State program. At a minimum, notification shall be required for--

(1) Changes in the provisions, scope or objectives of the State program;

(2) Changes in the authority of the regulatory authority to implement, administer and enforce the approved program;

(3) Changes in the State law and regulations from those contained in the approved State program;

(4) Significant changes in staffing and resources of the regulatory authority and divisions or departments of other agencies with duties in the approved program;

(5) Changes in agreements between the regulatory authority and other agencies which have duties in the approved program;

(6) Significant changes in funding or budgeting relative to the approved program; and

(7) Significant changes in the number or size of coal exploration or surface coal mining and reclamation operations in the State.

(c) Within 30 days of receipt of notification, in writing, of events or proposed changes that may require a State program amendment, or whenever the Director becomes aware of conditions described in subsection (e) of this Section, the Director shall determine whether a State program amendment is required and notify the State regulatory authority of the decision.

(d) The Director shall promptly notify the State regulatory authority of all changes in the Act and the Secretary's regulations which will require an amendment to the State program.

(e) State program amendments may be required when--

(1) As a result of changes in the Act or regulations of this Chapter, the approved State program no longer meets the requirements of the Act or this Chapter; or

(2) Conditions or events change the implementation, administration or enforcement of the State program; or

(3) Conditions or events indicate that the approved State program no longer meets the requirements of the Act or this Chapter.

(f) If the Director determines that a State program amendment is required, the State regulatory authority shall, within 60 days after notification of that decision, submit to the Director a written amendment designed to reestablish a State program that meets the requirements of the Act and this Chapter.

(1) If the State regulatory authority does not propose an amendment within 60 days from the receipt of the notice, or the amendment is not approved under this paragraph, the Director shall begin proceedings under 30 CFR 733, to either enforce that part of the State program affected or withdraw approval, in whole or in part, of the State program and implement a Federal program.

(2) The procedures, time schedules and criteria for approval or disapproval of an amendment shall be the same as required in Sections 732.12, 732.13 and 732.15 for approval or disapproval of a State program, except that the Director may approve or disapprove the amendment to the program rather than the Secretary.

(g) Whenever changes to laws or regulations that make up the approved State program are proposed by the State, the State shall immediately submit the proposed changes to the Director as an amendment. No such change to laws or regulations shall take effect for purposes of a State program until approved as an amendment.

PART 733 -- MAINTENANCE OF STATE PROGRAMS AND PROCEDURES FOR SUBSTITUTING FEDERAL ENFORCEMENT OF STATE PROGRAMS AND WITHDRAWING APPROVAL OF STATE PROGRAMS

Sec.
733.1 Scope.
733.4 Responsibilities.
733.11 General requirements for maintaining State programs.
733.12 Procedures for substituting Federal enforcement of State programs or withdrawing approval of State programs.
733.13 Criteria for substituting Federal enforcement for Sta programs or withdrawing approval of State programs.

Authority : Sections 102, 201, 501(b), 503, 504, 517, and 521 of Pub. L. 95-87, 91 Stat. 448, 449, 468(b), 470, 471, 498, and 504 (30 U.S.C. 1202, 1211, 1251(b), 1253, 1254, 1267, and 1271).

§733.1
Scope.

This Part establishes requirements for the maintenance of State programs and procedures for substituting Federal enforcement of State programs and withdrawing approval of State programs.

§733.4
Responsibilities.

(a) The State regulatory authority is responsible for implementing, enforcing and maintaining an approved State program, except where the Director has assumed, by substitution, that responsibility under this Part.

(b) The Regional Director is responsible for monitoring the State program. The Director is responsible for Federally enforcing and maintaining State programs and recommending that the Secretary withdraw approval of State programs not maintained, administered or enforced, as provided for in the Act and this Chapter.

(c) The Secretary is responsible for withdrawing approval of State programs as recommended by the Director if substituted Federal enforcement will not be an effective remedy.

§733.11
General requirements for maintaining State programs.

States with an approved State program shall, implement, administer, enforce and maintain it in accordance with the Act, this Chapter and the provisions of the approved State program.

§733.12
Procedures for substituting Federal enforcement of State progr withdrawing approval of State programs.

(a) Evaluation

(1) The Director shall evaluate the administration of each state program at least annually.

(2) Any interested person may request the Director to evaluate a State program. The request shall set forth a concise statement of the facts which the person believes establishes the need for evaluation. The Director shall verify the allegations and determine within 60 days whether or not the evaluation shall be made and mail a written decision to the requestor.

(b) If the Director has reason to believe that a State is not effectively implementing, administering, maintaining or enforcing any part of its approved State program, the Director shall promptly notify the State regulatory authority in writing. The Director's notice shall--

(1) Provide sufficient information to allow the State regulatory authority to determine what portions of the program the Director believes are not being effectively implemented, administered, maintained, or enforced;

(2) State the reasons for such belief; and

(3) specify the time period for the State regulatory authority to accomplish necessary remedial actions.

(c) The Director shall provide the State regulatory authority an opportunity for an informal conference, if requested within 15 days of receipt of a notification or within 15 days after the expiration of the time period specified in subparagraph (b)(3) of this section.

(d) If an informal conference is not held, under subsection (c) of this section, or if, following such a conference, the Director still has reason to believe that the State is failing to adequately implement, administer, maintain or enforce a part or all of a State program, the Director shall give notice to the State and to the public, specifying the basis for that belief and shall hold a public hearing in the State within 30 days of the expiration of the time period specified in subparagraph (b)(3) of this Section.

(e) Upon completion of the hearing under subsection (d) of this Section and based on the review of all available information, including the hearing transcript, written presentations and written comments, the Director shall continue the State program as approved, or if the Director finds that the State has failed to effectively implement, administer, maintain or enforce part or all of its approved State program, and that the State has not adequately demonstrated its capability and intent to administer the State program, the Director shall either --

(1) Substitute for the State regulatory authority direct Federal enforcement of all or part of the State program in accordance with paragraph (f) of this Section; or

(2) Recommend to the Secretary that he or she withdraw approval of the State program, in whole or in part, in accordance with paragraph (g) of this Section. The recommendation shall be accompanied by all relevant

information and shall include the reasons for the recommendation.

(f) Substituted Federal enforcement.

(1) The Director shall give public notice of a finding under paragraph (e) of this Section and specify the extent to which the Director is instituting direct Federal enforcement of a State program.

(2) During the period beginning with the public notice and ending when the State satisfies the Director that it will enforce the State program effectively, the Director shall enforce those portions of the State program and any additional regulations as the Office has adopted as necessary to enable the Director to perform his or her duties. To the extent the Director has assumed direct Federal enforcement of the State program, the Director shall --

(i) Enforce any permit condition required under the Act;

(ii) Issue any new or revised permit pursuant to any additional regulation that the Director may promulgate at the time of assumed enforcement; and

(iii) Conduct inspections and issue notices, orders and assessments of penalties as may be necessary for compliance with those permit conditions, the Act, and the State program in accordance with Subchapter L.

(3) In the case of a State permittee who has met his or her obligations under an existing State permit and who did not willfully secure the issuance of that permit through fraud or collusion, the Director shall give the permittee a reasonable time to conform ongoing surface mining and reclamation operations to the requirements of the Act, before suspending or revoking the State permit.

(g) Withdrawing approval of State program.

(1) Upon recommending withdrawal of approval of a State program to the Secretary, the Director shall institute direct Federal enforcement in accordance with the requirements of Subsection (f) of this Section.

(2) Upon receipt of the Director's recommendation and accompanying information under paragraph (e)(2) of this Section the Secretary shall either--

(i) Withdraw approval of the State program in whole or in part if the Secretary finds that failure by the State to administer or enforce part or all of its State program cannot effectively be remedied by substitution of direct Federal enforcement for all or part of the State program, or

(ii) Instruct the Director to continue direct Federal enforcement in accordance with Subsection (f) of this Section.

(3) The Secretary shall give public notice of a finding under paragraph (g)(2)(i) of this Section, and specify the extent to which approval of a State program is being withdrawn. Not later than the issuance of the notice, the Director shall propose promulgation of, and thereafter promulgate and implement a Federal program for the affected State, in accordance with 30 CFR 736.

§733.13
Criteria for substituting Federal enforcement for State progra withdrawing approval of State programs.

The record of the State in fulfilling the conditions of the original approval or adjusting to new circumstances, in accordance with requirements of the Act and this Chapter, the hearings trsncripts, written presentations and comments shall be considered in evaluating the maintenance, administration, or enforcement of a State program for purposes of determining whether to substitute direct Federal enforcement of the State program or to withdraw approval of part or all of the program.

PART 736 -- FEDERAL PROGRAM FOR A STATE

Sec.
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736.2 Objectives.
736.3 Responsibility.
736.4 Authority.
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736.14 Director's decision.
736.15 Implementation, enforcement and maintenance of a Fede program.
736.16 Federal program termination procedures.
736.17 Consolidation of procedures.
736.21 General requirements of a Federal program.
736.22 Contents of a Federal program.
736.23 Federal program effect on State law or regulations.
736.24 Federal program effect on State funding.

Authority : Sections 102, 201, 405, 501, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 521, 522, 525, and 705 of Pub. L. 95-87, 91 Stat. 448, 449, 459, 468, 470, 471, 473, 474, 478, 479, 480, 483, 484, 485, 486, 495, 498, 499, 501, 504, 507, 511, and, 520 (30 U.S.C. 1202, 1211, 1235, 1251, 1253, 1254, 1255, 1256, 1257, 1258, 1259, 1260, 1261, 1262, 1263, 1264, 1265, 1266, 1267, 1268, 1269, 1271, 1272, 1275, and 1294).

§736.1
Scope.

This Part establishes standards and procedures for the promulgation, implementation, maintenance, administration, revision and termination of a Federal program for a State for coal exploration and surface coal mining and reclamation operations on non-Federal and non-Indian lands within that State.

§736.2
Objectives.

The objectives of this Part are to provide standards and procedures for the Director to follow in the promulgation, implementation, maintenance, revision, administration and termination of a Federal program for coal exploration and surface coal mining and reclamation operations on non-Federal and non-Indian lands within a State and for public participation in these processes, to ensure that the requirements of the Act and this Chapter are met.

§736.3
Responsibility.

The Director has the responsibility to promulgate, implement, enforce, maintain, revise and terminate Federal programs on non-Federal and non-Indian lands, in accordance with Section 504 of the Act (30 U.S.C. 1254), 30 CFR 733 and this Part.

§736.4
Authority.

(a) Promulgation and implementation of a complete Federal program for a State vests the Office with exclusive jurisdiction and makes the Director the regulatory authority for the regulation and control of all coal exploration and surface coal mining and reclamation operations on non-Federal and non-Indian lands within the State.

(b) Promulgation and implementation of a partial Federal program for a State vests the Director with exclusive jurisdiction and makes the Office the regulatory authority for the regulation and control of those aspects of coal exploration and surface coal mining and reclamation operations covered by the partial Federal program.

§736.11
General procedural requirements.

(a) Promulgation.

(1) Not later than June 3, 1980, the Director shall promulgate and, subject to the provisions of this Part, implement a Federal program for a State if the Director reasonably expects coal exploration or surface coal mining and reclamation operations to exist on non-Federal and non-Indian lands within that State at any time before June 1985, and the State fails to--

(i) Submit a State program for all regulation of coal exploration and surface coal mining and reclamation operations on non-Federal and non-Indian lands within that State to the appropriate Regional Director within the time provided in 30 CFR 731.12; or

(ii) Resubmit an acceptable State program within 60 days of a notice of disapproval of a State program pursuant to 30 CFR 732.13(f). The Director shall not promulgate a Federal program before the expiration of the initial period allowed for submission of a State program, as provided in 30 CFR 731.12.

(2) The Director shall promulgate a complete Federal program for a State upon the withdrawal of approval of an entire State program under 30 CFR 733.12.

(3) The Director shall promulgate a partial Federal program for a State upon the withdrawal of approval of part of a State program under 30 CFR 733.

(b) Revision. The Director may revise a Federal program for a State, if necessary to further the purposes of the Act and the regulations adopted under the Act.

(c) Termination. The Director shall terminate appropriate portions of a Federal program for a State, upon approval of a State program under 30 CFR Parts 731 and 732 that replaces a complete or partial Federal program for that State.

§736.12
Public notice requirements.

Prior to the promulgation or revision of a Federal program, the Director shall give public notice as follows:

(a) Notice shall be published in the Federal Register at least 60 days before the date of the hearing required under Section 736.13 and shall include --

(1) A statement of the bases and purposes of the proposed program or revision;

(2) The proposed text of the regulations of the program or revision;

(3) The proposed effective date of the program or revision;

(4) The location of the Regional Office and public office in the capital city of the State where the text of the proposed program or revision and any supporting information may be reviewed or copied;

(5) The date, time, and location in the State where the Office will hold at least one public hearing under the supervision of the Regional Director; and

(6) A summary of the format and the rules of procedure of the public hearing, as required under Section 736.13.

(7) Notice of the opportunity for persons to submit, in writing, data and comments on the proposed promulgation of a Federal program to the Regional Director prior to the public hearing or at the public hearing.

(b) The Regional Director shall publish notice at least once a week for 3 weeks within the 30 days before the hearing in at least one newspaper of general circulation in the coal mining area of the affected State. This notice shall be identical to the notice required under paragraph (a) of this Section, except that a brief description of the contents of the proposed program or revision may be substituted for the proposed text of the regulations of the program or revision.

§736.13
Public comment.

(a) Comments shall be solicited by the Director from the Administrator of the Environmental Protection Agency, the Secretary of Agriculture, and the heads of other Federal agencies concerned with or having special expertise relevant to the proposed promulgation or revision of the program.

(b) The Regional Director shall provide an opportunity for persons to submit, in writing, data and comments on the proposed promulgation or revision of a Federal program within 60 days after publication of the notice in the Federal Register.

(c) Before promulgation or revision of a Federal program for a State, the Regional Director shall hold at least one public hearing within the State for the purpose of affording interested persons an opportunity to submit data and comments on the proposed Federal program or revised Federal program for the State. The hearings shall follow legislative procedures and include a presentation of the proposed program or revision by the Regional Director's office and the compilation of an open record of the hearing.

(d) Additional hearings or additional time for submitting comments after the hearing may be allowed by the Regional Director, if considered appropriate by the Regional Director.

(e) Upon completion of the hearings, the Regional Director shall transmit to the Director the hearing transcripts, exhibits submitted, written presentations at the hearings, public comment and the Regional Director's recommendation concerning the promulgation of a Federal program or revised Federal program and any proposed regulations.

(f) Copies of all written comments received and the transcripts of the public hearing shall be made available for public inspection and copying at the office of the appropriate Regional Director and at the public office in the capital city of the State.

§736.14
Director's decision.

(a) After considering all relevant information required under Section 736.13(f), the Director shall decide whether to promulgate or revise a Federal program for the State.

(b) The Director shall publish the decision in the Federal Register, including a statement of the basis and purpose for the decision, the regulations of the Federal program for the State or revision thereof, and the effective date of the program or revision.

§736.15
Implementation, enforcement and maintenance of a Federal progr

The Director shall implement, administer, maintain and enforce a Federal program or any revision not later than 30 days after a Federal program is promulgated or revised. The provisions of a Federal program for designation of lands as unsuitable for surface coal mining operations shall apply at the time provided for by Subchapter F of this Chapter.

§736.16
Federal program termination procedures.

Termination of a Federal program shall be accomplished at the same time and through the procedures for approval of a State program under 30 CFR 732. No Federal program shall be considered terminated until a State program has been approved by the Secretary in accordance with 30 CFR 732.

§736.17
Consolidation of procedures.

The Director may consolidate public notices, hearings, opportunity for public comment and decisions on the promulgation, revision or termination of a Federal program for a State under this Part, with public notices, opportunity for public comment and hearings on the approval, disapproval or withdrawal of a State program under 30 CFR 732-733.

§736.21
General requirements of a Federal program.

(a) Any complete Federal program promulgated or revised by the Director shall include the contents identified in 30 CFR 736.22.

(b) Any partial Federal program shall include all of the contents identified in 30 CFR 736.22 to the extent that those aspects of coal exploration and surface coal mining and reclamation operations within the State are to be regulated by the Director under the partial program and are not to be regulated under the remainder of the State program that continues in effect.

§736.22
Contents of a Federal program.

(a) In promulgating or revising any Federal program for a State, the Director shall --

(1) Consider the nature of that State's soils, topography, climate, and biological, chemical, geological, hydrological, agronomic, and other relevant physical conditions;

(2) Include any provisions that are necessary to implement the requirements of the Endangered Species Act of 1973, as amended (16 U.S.C. 531 et seq.), the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-666c), the National Historic and Preservation Act of 1966 (16 U.S.C. 470), the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. 469a), and other relevant Federal laws imposing duties upon the Secretary; and

(3) Include, if required pursuant to 30 CFR 736.23, any performance standards for the regulation of coal exploration and surface coal mining and reclamation operations more stringent than those otherwise provided for by this Chapter and the Act.

(b) Any Federal program for a State, including appropriate portions of a partial Federal program which is promulgated or revised by the Director, shall provide for Federal regulation of coal exploration and surface coal mining and reclamation operations on non-Federal and non-Indian lands within the State in accordance with the requirements of the Act and this Chapter, including, at a minimum, the following provisions: 30 CFR 700, 701, 707, 760, 761, 762, 765, Subchapter G, Subchapter J, Subchapter K, 30 CFR 842, 843, and Subchapter M.

(c) For the purpose of avoiding duplication, the Federal program shall include a process for coordinating the review and issuance of permits for surface coal mining and reclamation operations under the Federal program with any other Federal, State, or local planning or permit process applicable to the operations in the jurisdiction involved, including, but not limited to--

(1) The Clean Air Act, as amended (42 U.S.C. 7401 et seq.); Clean Water Act, as amended (30 U.S.C. 1251 et seq.); Resource Conservation and Recovery Act (42 U.S.C. 3251 et seq.);and

(2) Plans approved by the Administrator of the U.S. Environmental Protection Agency under Sections 208 or 303(c) of the Clean Water Act, as amended (33 U.S.C. Section 1288, 1313(c)).

§736.23
Federal program effect on State law or regulations.

(a) Whenever a Federal program is promulgated or revised for a State, any statutes or regulations of the State regulating coal exploration or surface coal mining and reclamation operations subject to the Act shall be preempted and superseded by the Federal program, insofar as the State statutes or regulations are inconsistent, less stringent or preclude compliance with the purposes and requirements of the Act and the Federal program. In promulgating or revising a Federal program for a State, the Director shall set forth in the Federal Register any State statute or regulation which is preempted and superseded by the Federal program.

(b) The provision of any State statute or regulation which provides for more stringent land use and environmental control and regulation of coal exploration or surface coal mining and reclamation operations than do the provisions of the Act or any regulation issued under the Act shall not be preempted and superseded by the Director and shall be incorporated into the Federal program for the State.

§736.24
Federal program effect on State funding.

(a) After the withdrawal of a State program and the promulgation and implementation of a complete Federal program for a State and extending until approval of a new State program, the Director shall not--

(1) Approve, fund or continue to fund a State abandoned mine reclamation program, under Section 405(c) of the Act and 30 CFR 884.14, 844.15, 884.16 and 886.18; or,

(2) Make any grants to assist the State in administering and enforcing State programs under the Act and 30 CFR 725.11 and 735.12.

(b) After the withdrawal of a State program in part and the promulgation and implementation of a partial Federal program for a State and extending until the approval of a complete State program is approved, the Director shall not--

(1) Approve, fund or continue to fund a State abandoned mine reclamation program, under Section 405(c) of the Act and 30 CFR 884.14, 884.15, 884.16 and 886.18, unless the Director finds, in writing, that discontinuation of funding would not be consistent with achieving the purposes of the Act, and

(2) Make any grants to assist the State in administering and enforcing State programs under the Act and 30 CFR 735.12, unless the Director finds in writing that discontinuation of funding would not be consistent with achieving the purposes of the Act.

SUBCHAPTER D-- FEDERAL LANDS PROGRAM

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PART 740-- GENERAL REQUIREMENTS FOR SURFACE COAL MINING AND RECLAMATION OPERATIONS ON FEDERAL LANDS

Sec.	
740.1	Scope and purpose.
740.2	Objectives.
740.4	Responsibilities.
740.5	Definitions.

Authority: Secs. 102, 201, 512, 523, 701, and 711 of Pub. L. 95-87, 91 Stat. 448, 449, 510, 516 (30 U.S.C. 1202, 1211, 1273, 1291); and 41 Stat. 437, as amended (30 U.S.C. 181 et seq.).

§740.1
Scope and purpose.

This Subchapter, to regulate surface coal mining and reclamation operations on Federal lands:

(a) Establishes the procedures and requirements for permits;

(b) Prescribes the environmental protection performance standards;

(c) Prescribes the requirements for performance bonds, Federal lessee protection, and liability insurance;

(d) Establishes the responsibilities and procedure for inspection and enforcement;

(e) Establishes a schedule for compliance with permanent regulatory program requirements;

(f) Sets forth the requirements for State-Federal cooperative agreements for regulation by a State on Federal lands within a State on Federal lands within a State under Section 523(c) of the Act; and

(g) Defines the functions and responsibilities of Federal and State agencies in administering the provisions of the Act, and this Chapter with respect to surface coal mining and reclamation operations on Federal lands.

§740.2
Objectives.

The objectives of this Subchapter are to ensure that coal exploration within a permit area and surface coal mining and reclamation operations involving Federal lands as defined in 30 CFR 700.5, comply with the requirements of the Act, this Chapter, and all other applicable State and Federal laws.

§740.4
Responsibilities.

(a) The Secretary is responsible for the approval or disapproval of mining plans on Federal lands.

(b) The Secretary, is responsible for the execution, modification or termination of State-Federal cooperative agreements in accordance with 30 CFR Part 745.

(c) The Secretary, acting through the Director, is responsible for the process of designating areas of Federal lands as unsuitable for all or certain types of surface coal mining operations, in accordance with the requirements of 30 CFR 769.

(d) The Director is responsible for the approval or disapproval of permit applications for surface coal mining and reclamation operations on Federal lands. The Director is to consult with and obtain the consent of the authorized officer of the Federal surface managing agency, with respect to special requirements relating to the protection of non-mineral resources of the areas affected by those operations, and to assure operator compliance with such special requirements. The Director will also consult with and obtain the consent of the Director, U.S. Geological Survey, concerning requirements relating to the development, production, and recovery of mineral resources in areas affected by those operations.

(e) The Director is responsible for approval of authorizations to conduct experimental practices on Federal lands, in accordance with 30 CFR 741.14(b).

(f) The Regional Directors, with the concurrence of the authorized representative of the surface managing agency, are responsible for the approval of performance bonds, Federal lessee protection bonds, and liability insurance required for surface coal mining and reclamation operations on Federal lands, in accordance with 30 CFR 742.

(g) The Regional Directors are responsible for inspection and enforcement with respect to surface coal mining and reclamation operations on Federal lands, to ensure compliance with the requirements of the Act and this Chapter, in accordance with 30 CFR 744 and 815.

(h) In accordance with 30 CFR 211, the Director, U.S. Geological Survey, is responsible for inspection and enforcement of the terms and conditions of coal exploration licenses issued pursuant to 43 CFR 3507. The Director, U.S. Geological Survey, is also responsible for receiving and approving exploration plans on Federal coal leases outside a permit area and for inspection and enforcement of the terms and conditions of such exploration plans pursuant to 30 CFR 211; and for inspection and enforcement of the coal resource requirements of 30 CFR 211 within the permit area.

§740.5
Definitions.

As used in this Subchapter:

Authorized officer means any officer designated by a Federal agency as having administrative jurisdiction over Federal lands or minerals for the exercise of authority in matters relating to the provisions of the Act and this Chapter.

Authorized state regulatory authority means a State regulatory authority exercising authority to regulate surface coal mining and reclamation operations on Federal lands under a State-Federal cooperative agreement approved under 30 CFR 745.

Coal Lease means a Federal coal lease or license issued by the U.S. Department of the Interior's Bureau of Land Management pursuant to the Mineral Leasing Act of 1920, as amended (30 U.S.C. 181 et. seq.) and the Federal Acquired Lands Leasing Act (30 U.S.C. 351-359). The name of the specific lease instrument is used in this Subchapter where necessary for precise meaning or more detailed explanation.

Lease terms and conditions and stipulations means all of the standard provisions of a Federal coal lease, including provisions relating to lease duration, fees, rentals, royalties, lease bond, production and record keeping requirements, and lessee rights of assignment, extension, renewal, termination and expiration; and site-specific requirements included in Federal coal leases in addition to other terms and conditions which relate to protection of the environment, and human, natural and mineral resources.

Mining Plan means a complete mining and reclamation operations plan that complies with the requirements of the Mineral Leasing Act of 1920, as amended (30 U.S.C.181 et seq.), the Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1201; et seq.), regulations promulgated under those Acts, and all other applicable laws and regulations. At a minimum, the "mining plan" includes the mining operations plan required under the Mineral Leasing Act of 1920, as amended, and the matter required under Subchapter G of this Chapter for a permit for surface coal mining and reclamation operations.

Mining supervisor means the area Mining Supervisor, Conservation Division, U.S. Geological Survey, or District Mining Supervisor or other subordinate acting under their direction.

Surface managing agency means a Federal agency having administrative jurisdiction over the surface of Federal lands or over Federal minerals.

PART 741-- PERMITS

Sec.
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Authority: Secs. 102, 201, 506, 507, 508, 509, 510, 511, 513, 514, 515, 516, 517, 522, 523, 527, 701 and 711, Pub. L. 95-87, 91 Stat. 448, 449, 473, 474, 478, 479, 480, 483, 484, 485, 486, 495, 498, 507, 510, 513, 523. (30 U.S.C. 1202, 1211, 1256, 1257, 1258, 1259, 1260, 1261, 1263, 1264, 1265, 1266, 1267, 1272, 1273, 1301); and 41 Stat. 437, as amended (30 U.S.C. 181 et.seq.).

§741.1
Scope.

This Part provides the requirements for permits to conduct surface coal mining and reclamation operations on Federal lands.

741.2
Objectives.

The objectives of this Part are to--

(a) Ensure that surface coal mining and reclamation operations on Federal lands are conducted only after the Department has determined that reclamation can be accomplished as required by the Act and this Chapter on lands disturbed or affected by those operations;

(b) Establish regulatory procedures governing the process for making applications for permits on Federal lands and for the review, approval, and disapproval of those applications by the Director;

(c) Establish a procedure for public participation in the permit application and review process;

(d) Establish the criteria and procedures for revision or renewal of permits and transfer, sale or assignment of rights granted under a permit on Federal lands; and,

(e) Establish procedures for the revocation of permits on Federal lands.

§741.4
Responsibilities.

(a) The Director, acting through the Regional Directors, has the responsibility to receive and review applications for permits and revisions and renewals of permits and applications for the transfer, sale or assignment of permits, and to approve, disapprove, or conditionally approve surface coal mining and reclamation operations on Federal lands, in States that do not have an approved State-Federal cooperative agreement under 30 CFR 745.

(b) In a State where there is an approved State-Federal Cooperative Agreement under 30 CFR 745, the authorized State regulatory authority and the Director acting through the Regional Directors have the joint responsibility to review applications for permits and, revisions, and renewals of permits, and approve, disapprove, or conditionally approve permits for surface coal mining and reclamation operations on Federal lands.

(c) The mining supervisors, authorized officers of surface managing agencies, and Regional Directors are responsible for formulating special requirements relating to the development, production and recovery of coal resources, the conservation and protection of natural resources, and for the post-mining land use. Such requirements shall be specified in approved mining plans for surface coal mining and reclamation operations on Federal lands.

(d) The Secretary is responsible for the approval, disapproval, or conditional approval of the mining plan which includes the operation and reclamation plan for the life of the mine.

§741.11
General obligations.

(a) On and after 6 months from the effective date of this Subchapter, regardless of litigation contesting the promulgation of this Subchapter, each operator having an approved mining plan, or having submitted an approvable new or revised mine plan to the Office before the effective date of this Subchapter, for surface coal mining and reclamation operations on Federal lands shall comply with the permanent performance standards in 30 CFR Subchapter K. A revised mining plan shall not be required until an application for a permit is required under paragraph (c) of this Section except-

(1) Where the regulatory authority determines that the existing approved mining plan requires modification to assure compliance with one or more performance standards. In such cases the regulatory authority shall establish, in writing, a time schedule within which the person conducting the operation shall modify the approved mining plan to meet the requirements of the specified performance standard or standards and to achieve compliance with those requirements. In no event shall the time for modification and compliance be extended beyond 12 months from the effective date of this Subchapter, or be construed to mean a complete permit application is not required pursuant to Section (c) of this Part.

(2) Where a mining plan for a new mine or modification to an existing mining plan is required to increase the acreage to be mined, the application for approval of the mining plan shall comply with the requirements of 30 CFR Part 741.13, 30 CFR Part 742 and 30 CFR Part 744.

(b) Where surface coal mining and reclamation operations are conducted by a Federal lessee under an approved mining plan or permit which covers intermingled Federal and non-Federal lands, the Secretary shall require as a condition for operations on Federal lands, that operations on intermingled non-Federal lands be conducted in a manner which will not preclude compliance with the performance standards in Subchapter K on Federal lands.

(c) (1) Not later than two months after the effective date of a State program or a Federal program for a State and regardless of litigation contesting the promulgation of this Subchapter each person who conducts or expects to conduct surface coal mining and reclamation operations on Federal lands after the expiration of eight months from such effective date shall file a complete application for a permit for those operations, and

(2) Except as provided in paragraph (d) of this Section, on or after eight months from the effective date of a State program or a Federal program for a State, no person shall conduct surface coal mining and reclamation operations on Federal lands, unless that person has first obtained a valid permit issued by the Director under the Act and this Part.

(d) A person who conducts surface coal mining and reclamation operations, under a mining plan approved by the Secretary in accordance with the Act and 30 CFR 211, may conduct those operations beyond the period prescribed in paragraph (c) of this Section, if all of the following conditions are present:

(1) Timely and complete application for a permit to conduct those operations under this Part has been made to the Regional Director, in accordance with the provisions of the Act and this Part;

(2) The Director has not yet rendered a final decision with respect to the permit application; and

(3) Those operations are conducted in compliance with all terms and conditions of the approved mining plan and the requirements of the Act, 30 CFR 211, and Subchapter K, State laws and regulations applicable through an approved cooperative agreement, and the requirements of the applicable lease or license.

(e) Eight months following approval of a State program or implementation of a Federal program, all persons shall conduct surface coal mining and reclamation operations operations on Federal lands under a permit issued pursuant to this Subchapter and an approved cooperative agreement and shall comply with the terms and conditions of the approved mining plan, the permit, the lease terms, conditions, and stipulations the lease, license requirements, and any applicable State or Federal regulations.

741.12
Relation of permit to mining plan.

(a) The Director shall issue permits only in accordance with an approved mining plan. Permit approvals may be conditioned to reflect the Secretary's approval or conditional approval of the mining plan.

(b) A mining plan shall include:

(1) The information required for a permit by 30 CFR 741.13; and

(2) An operation and reclamation plan which covers the life of the surface coal mining operations involved in accordance with the Mineral Leasing Act of 1920, as amended (30 U.S.C. 181 et. seq.) and 30 CFR 211.

(c) The applicant shall file a mining plan with the Regional Director.

(d) The Director shall advise the Secretary on mining plan approval by indicating that he is prepared to approve a permit.

§741.13
Permit applications.

(a) Permit fee. An application for a permit to conduct surface coal mining and reclamation operations on Federal lands shall be accompanied by a fee not to exceed the actual or anticipated administrative costs of reviewing the application. The amount of the fee shall be determined by a fee table published by the Director, or as determined pursuant to a State-Federal cooperative agreement.

(b) Copies required. The applicant shall file at least seven copies of the complete permit application with the Regional Director.

(c) Contents of applications.

(1) A permit application shall meet the requirements of 30 CFR Part 771.23 and shall include:

(i) The legal, financial, compliance and related information required by 30 CFR 778 for surface mining activities or by 30 CFR 782 for underground mining activities;

(ii) The information on environmental resources in the permit and adjacent areas required by 30 CFR 779 for surface mines or 30 CFR 783 for underground mining activities;

(iii) A reclamation and operations plan as required by 30 CFR 780 for surface mining activities, or as required by 30 CFR 784 for underground mining activities. The mining and reclamation plan shall include an exploration plan covering all exploration activities within the permit area, including the requirements of 30 CFR 776, except information already submitted pursuant to 30 CFR 779 and 780 or 30 CFR 783 and 784 need not be repeated. Exploration proposed to be conducted within the permit area during the permit term in addition to that approved in a permit shall only be conducted after it is authorized in an approved permit revision.

(2) An applicant seeking authorization to conduct any of the special categories of surface coal mining and reclamation included in 30 CFR 741.13 shall include in the permit application in addition to the information required in this Section the applicable requirements of 30 CFR 741.13.

(3) Where the surface of the Federal lands is subject to a lease or permit issued by the Federal government, the application for a permit shall include the written consent of the permittee or lessee to enter and commence surface coal mining operations on those lands. Where written consent cannot be obtained by the applicant, evidence of the execution of a Federal lessee protection bond shall be submitted to the Regional Director according to 30 CFR 742.13.

§741.14
Requirements for special operations.

(a) Persons seeking to engage in special bituminous surface coal mining in Wyoming shall comply with 30 CFR 785.12.

(b) Persons seeking to conduct experimental practices as part of surface coal mining and reclamation operations shall comply with 30 CFR 785.13.

(c) Persons seeking to engage in mountain-top removal surface coal mining and reclamation activities shall comply with 30 CFR 785.14.

(d) Persons seeking to engage in steep slope surface coal mining and reclamation operations shall comply with 30 CFR 785.15.

(e) Persons seeking to conduct surface coal mining and reclamation operations on steep slopes involving variances from the requirements of the Act, Subchapter K, and applicable state statutes and regulations which require disturbed areas to be restored to their approximate original contour, shall comply with 30 CFR 785.16.

(f) Persons seeking to engage in surface coal mining and reclamation operations on prime farmlands shall comply with 30 CFR 785.17.

(g) Persons seeking to engage in combined surface and underground mining activities, involving a delay in the requirements of Section 515(b)(16) of the Act, Subchapter K of this Chapter, and applicable State statutes and regulations to conduct reclamation operations as contemporaneously as practicable with mining operations, shall comply with 30 CFR 785.18.

(h) Persons seeking to engage in surface coal mining and reclamation operations in or adjacent to alluvial valley floors in arid or semi-arid areas west of the 100th meridian shall comply with 30 CFR 785.19.

(i) Persons seeking to engage in auger mining shall comply with 30 CFR 785.20.

(j) Persons seeking to engage in the operation of coal processing plants and support facilities, not located within the permit area of a specified mine, shall comply with 30 CFR 785.21.

(k) Persons seeking to engage in the operation of in situ coal processing activities shall comply with 30 CFR 785.22.

§741.15
Permit terms.

(a) Each permit to conduct surface coal mining and reclamation operations on Federal lands shall be issued for a fixed term not to exceed five years and shall be consistent with the approved mining plan. If the applicant satisfies the following requirements, a longer specified permit term may be granted:

(1) Where a permit term over five years is reasonably needed to allow the applicant to obtain necessary financing for equipment or opening of the operation and this need is verified, in writing, by the applicant's proposed source for the financing, and

(2) The application is full and complete for the longer term.

(b) (1) A permit shall terminate if the permittee has not commenced the surface coal mining operations covered by the permit within three years of the issuance of the permit. The Secretary may grant a reasonable extension of time upon a written showing by the permittee that the extension is necessary because of litigation precluding the commencement of operations or threatening substantial economic loss to the permittee, or because of other conditions beyond the control and without the fault or negligence of the permittee.

(2) An extension of time may not be granted if the effect of that extension would be to extend the term of a Federal coal lease beyond the period allowed for diligent development under the terms and conditions of the lease and the requirements of Section 7 of the Mineral Leasing Act of 1920, as amended (30 USC 181 et seq.) and 43 CFR 3500.

(3) With respect to coal to be mined for use in a synthetic fuel facility or specific major electric generating facility, the permittee shall be deemed to have commenced surface mining operations at the time the construction of the synthetic fuel or generating facility is initiated.

(4) Extensions of time granted by the Director under paragraph (a) of this Section shall be specifically set forth in the permit and public notice of the extension shall be by publication in the Federal Register and such other means as the Director determines appropriate.

§741.16
Conditions of permits.

All permits issued under this Part shall reflect consideration of the diverse physical, climatological, and other unique characteristics of the Federal lands in question and shall include the terms and conditions for permits required by 30 CFR 786.

§741.17
Criteria for permit approval or denial.

No permit or revision application involving Federal lands shall be approved, unless the application affirmatively demonstrates and the Director finds, in writing, on the basis of information in the application or from information otherwise available, which is documented in the approval and made available to the applicant, that--

(a) The Secretary has approved the applicants proposed mining plan;
(b) The applicant has satisfied all applicable requirements for the approval of permits under 30 CFR 786;

(c) The applicant has submitted to the regulatory authority a satisfactory performance bond, liability insurance, and where required, evidence that a Federal lessee protection bond which meets the requirements of 30 CFR 742.13 has been executed;

(d) If the operations are on Federal lands in a State having an approved State-Federal cooperative agreement, both the Director and the authorized State regulatory authority have concurred in the approval of the permit; and

(d) The applicant has compiled with all other requirements of applicable Feeeral laws including but not limited to, the Mineral Leasing Act of 1920, as amended (30 U.S.C. 181 et seq), the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.), and regulations adopted under those Acts.

§741.18
Public participation in permit review process.

The provisions for public participation in the permit review process of 30 CFR 786.11 through 786.15 and 786.19 shall apply to the review of each application for a permit to conduct surface coal mining and reclamation operations under this Subchapter, except that where public hearings were held and determinations made under Section 2(a)(3)(A)(B) and (C) of the Mineral Leasing Act, as amended (30 U.S.C. 201(a)(3)(A)(B) and (C)), the matters covered by such hearings and the determinations made need not be readdressed and shall be made a part of the record of any public hearing held pursuant to this Subchapter.

§741.19
Availability of information.

(a) Information in a permit application on file with the Office and any state regulatory authority shall be open for public inspection and copying at reasonable times upon written request, subject to the following--

(1) Information in a permit application which pertains only to the analysis of the chemical and physical properties of the coal, except information on a mineral or elemental content which is potentially toxic in the environment, shall be kept confidential and not made a matter of public record; and

(2) Only information in mining and reclamation plan portions of the application, which is required to be filed with the Regional Director under Section 508 of the Act and which is not required to be disclosed by the Freedom of Information Act (5 U.S.C. 552(b)), shall be held in confidence by the Regional Director according to 43 CFR 2.

(b) Information in a permit application required to be kept confidential under paragraph (a) of this section, shall be clearly identified by the applicant by marking each page of the document with the words "CONFIDENTIAL INFORMATION" at the top of the page. Failure to add "CONFIDENTIAL INFORMATION" will be construed as a waiver of confidentiality. All pages so marked shall be physically separated by the applicant from other portions of the application.

§741.20
Permit review processing for operations on National Forest Sys lands.

Upon receipt of an application for a permit, the Regional Director shall, when a permit application or a proposed revision of an approved permit involves surface coal mining and reclamation operations on Federal lands within the boundaries of National Forest System lands, transmit a copy of the complete application or proposed revision to the Chief, U.S. Forest Service, with a request for review of the application and consent to its approval by the Secretary of Agriculture.

§741.21
Review of permit applications.

(a)(1) The Director acting through the Regional Directors, shall review the application, written comments, written objections, and records of any informal conference held with respect to the application under Section 741.17 and recommend approval, disapproval, or conditional approval of the application to the Director. Prior to making a decision, the

Director shall consult with and obtain the consent of the authorized officer of the surface mining agency and the Director, U.S. Geological Survey, as provided in 30 CFR 740.4(a).

(2) The Director shall grant, require modification of, or deny all applications for permits under the Federal lands program, on the basis of--

(i) Complete applications for permits and revisions or renewals thereof;

(ii) Public participation as provided for in this Part;

(iii) Compliance with any applicable provision of 30 CFR 785;

(iv) Processing, review, and recommendations of applications as required by this Part

(3) The Director shall take action as required by this paragraph within a reasonable time after receipt of all of the information described in subparagraph (3), and such additional information as he or she may require of the Director, U.S. Geological Survey, or the permit applicant.

(4) Issuance of Decisions.

(i) If an informal conference is held under Section 741.17, the Director shall give his or her written findings to the permit applicant and to each person who is a party to the conference, granting or denying the permit in whole, or in part, and stating the specific reasons therefore in the decision. In states where an approved cooperative agreement exists under 30 CFR 745, the Director shall simultaneously transmit a copy of those findings and any permit issued to the state regulatory authority.

(ii) If no such informal conference has been held, the Director shall transmit his or her written findings to the permit applicant, granting or denying the permit, in whole, or in part, and stating the specific reasons therefore in the decision. Simultaneously, the Director shall transmit a copy of his or her decision to each person and government official who filed a written objection or comment with respect to the application, and to the state regulatory authority, where the application was for mining in a state where an approved cooperative agreement under 30 CFR 745 exists. The Director shall also simultaneously publish a summary of his or her decision in a newspaper or similar periodical of general circulation in the general area of the proposed operation. Within 10 days after the granting of a permit, the Director shall make the notifications required by 30 CFR 786.31.

(5) The final decision of the Director is subject to an appeal to the Department's Office of Hearings and Appeals as provided in 30 CFR 787.11.

(b) If the Regional Director determines from either the schedule submitted as part of the application under 30 CFR 778.14(c) or 782.14(c), or from other available information, that any surface coal mining operation owned or controlled by the applicant is currently in violation of any law, rule, or regulation of the United States, of any State law, rule or regulation pertaining to air or water environmental protection and enacted pursuant to Federal law, or of any provision of the Act, the regulatory authority shall require the applicant, before the issuance of the permit, to-

(1) Submit to the regulatory authority reviewing the application proof which is satisfactory to the regulatory authority, department, or agency which has jurisdiction over such violation, that the violation--

(i) Has been corrected,

(ii) Is in the process of being corrected; or

(2) Establish to the satisfaction of the regulatory authority reviewing the application that the applicant has filed and is presently pursuing, in good faith, a direct administrative or judicial appeal to contest the validity of that violation.

(c) Before any final determination by the regulatory authority that the applicant, or the operator specified in the application, controls or has controlled mining operations with a demonstrated pattern of willful violation of the Act of such nature, duration, and with such resulting irreparable damage to the environment as to indicate an intent not to comply with the provision of the Act, the applicant or operator shall be afforded an opportunity for an adjudicatory hearing on the determination as provided for in 43 CFR 4.

§741.22
Renewal of permits.

Each permit issued under this Subchapter shall carry with it the right of successive renewal upon expiration, for areas within the boundaries of the existing permit, in accordance with the requirements of 30 CFR 788.13 through 788.16. Terms of a permit to conduct operations under a lease issued pursuant to the Mineral Leasing Act, as amended (30 USC 181 et seq.), may not be extended beyond the period allowed for diligent development under the terms and conditions of the lease as provided for in to Section 7 of that Act and 43 CFR 3500.

§741.23
Review of approved permits and permit revisions.

(a) The Regional Director shall review each Federal permit issued and outstanding in accordance with 30 CFR 788.11.

(b) Upon the recommendation of the Regional Director following that review, the Director, may require, by order, supported by written findings, reasonable revision or modification of the permit provisions, in accordance with the procedures in 30 CFR 788.

(c) Where changes or other factors constitute a significant departure from the method of mining or reclamation operation approved in the original permit, the permittee shall apply for a revised permit, in accordance with the requirements of 30 CFR 788. The permittee shall submit seven copies of a permit revision application to the Regional Director.

(d) Applications for approval of a permit revision which require modification of an approved mining plan shall not be approved until the modification of the mining plan has been approved by the Secretary.

§741.24
Transfer, assignment, or sale of rights.

(a) The provisions of 30 CFR 788.17 through 788.19 shall govern the approval by the Director of the transfer, assignment or sale of rights granted under a permit issued pursuant to this Subchapter. No person shall obtain a transfer, assignment, or sale of rights granted under a permit issued under this Subchapter without the approval of the Director.

(b) Applications for transfer, assignment or sale of rights granted under permits shall be filed with the Regional Director.

(c) The Regional Director, before recommending to the Director approval or disapproval of an application for transfer, assignment or sale of rights, shall obtain the concurrence of the Director, U.S. Bureau of Land Management, and the Director, U.S. Geological Survey.

(d) The Director shall authorize the Regional Director to grant the application, if the Secretary has approved the mining plan under which the operation will be conducted.

(e) Approval of a transfer, assignment or sale of rights granted under a permit shall not be construed to constitute a transfer or assignment of leasehold interests. Leasehold interests may only be transferred or assigned in accordance with 43 CFR 3506.

§741.25
Revocation of permits.

(a) A permit to conduct surface mining and reclamation operations on Federal lands may be suspended or revoked by the Director, in accordance with the procedures in 30 CFR 843.13.

(b) If a permit to conduct surface coal mining and reclamation operations on Federal lands is suspended or revoked, the Regional Director shall notify the Director, U.S. Bureau of Land Management and recommend that action be taken by the Bureau to cancel the Federal lease, in accordance with the procedures in 43 CFR Subpart 3523.

PART 742-- BONDS AND LIABILITY INSURANCE ON FEDERAL LANDS

Sec.
742.1 Scope.
742.4 Responsibilities.
742.5 Definitions.
742.11 Federal lease bonds.

742.12 Performance bonds.
742.13 Federal lessee protection bonds.
742.14 Amount and duration of performance bonds.
742.15 Form of performance bonds.
742.16 Terms and conditions of performance bonds.
742.17 Terms and conditions for liability insurance.
742.18 Release of bonds.
742.19 Performance bond, forfeiture criteria and procedures.

Authority: Secs. 102, 201, 507, 509, 519, 523, 715, Pub. L. 95-87, 91 Stat. 448, 449, 474, 479, 501, 510, 525 (30 U.S.C. 1207, 1211, 1257, 1259, 1269, 1273, 1305); and 41 Stat. 437, as amended (30 U.S.C. 181 et seq.).

§742.1
Scope.

This Part sets forth, with respect to Federal lands, the performance bond, Federal lessee protection bond and liability insurance required under the Surface Mining Control and Reclamation Act of 1977. It includes procedures for setting performance bond and liability insurance amounts, provides for the reduction of performance bond requirements where dual bonding exists. This Part also sets forth the requirements for liability insurance for surface coal mining and reclamation operations on Federal lands.

§742.4
Responsibilities.

(a) The Director shall prescribe and furnish the form for filing a performance bond. The Director shall prescribe terms and conditions for bonds and insurance in accordance with this Part.

(b) The Director is responsible for determining the amount of the performance bond, Federal lessee protection bond, and liability insurance required for each permit area, including adjustments to the initial amount, from time to time, as affected land acreages are increased or decreased or where the cost of future reclamation changes.

(c) The Director is responsible for the release of performance bonds.

(d) The Director shall initiate proceedings for forfeiture of all or part of a bond in accordance with 30 CFR 808.

§742.5
Definitions.

"Federal lease bond" means a surety bond payable to the United States required pursuant to 43 CFR 3504 for compliance with the terms and conditions of a Federal coal lease.

"Federal lessee protection bond" means a bond payable to the United States for use and benefit of a permittee or lessee authorized under other Federal laws on Federal lands, to secure payment of any damages to crops or tangible improvements.

§742.11

Federal lease bonds.

(a) All operators on any Federal lease shall have a Federal lease bond. Lessees holding a lease before the effective date of these regulations where the lease is covered by a bond required under 43 CFR 3504, may apply to the authorized officer for release of liability for that portion of the Federal lease bond that covers reclamation requirements.

(b) The authorized officer may release the liability for that portion of the Federal lease bond that covers reclamation requirements if:

(1) The Federal lessee has secured a suitable bond covering the permit area under this part;

(2) There are no pending actions or unresolved claims against existing bonds; and

(3) The authorized officer receives concurrence from the Regional Director and the Mining Supervisor.

(c) Bonding requirements on Federal leases issued pursuant to 43 CFR 3500 after the effective date of this Subchapter shall not include the performance bond required in this Part.

§742.12
Performance bonds.

(a) Each person conducting surface coal mining and reclamation operations on a Federal lands shall comply with the performance bond requirements of 30 CFR 800-808.

(b) Performance bonds required for operations on Federal lands, where a State regulatory authority has administration and enforcement responsibilities under a State-Federal cooperative agreement, shall be payable to both the United States and the State regulatory authority.

§742.13
Federal lessee protection bonds.

(a) In those instances where Federally owned coal is to be mined and the surface of the land is subject to a lease or permit issued by the United States and the applicant for a mining permit is unable to obtain the written consent of the permittee or lessee of the surface to enter and commence surface coal mining operations, the applicant shall submit to the Regional Director with his application for permit evidence of execution of a bond or undertaking which meets the requirements of this Section. The Federal lessee protection bond is in addition to the performance bond required by Section 742.12.

(b) The bond shall be payable to the United States for the use and benefit of the permittee or lessee of the surface lands involved.

(c) The bond shall secure payment to the surface estate for any damage which the surface coal mining and reclamation operation causes to the crops or tangible improvements of the permittee or lessee of the surface lands.

(d) The amount of the bond shall be determined either by the applicant and the Federal lessee or permittee or as determined in an action brought against the person conducting surface coal mining and reclamation operations or upon the bond in a court of competent jurisdiction.

§742.14
Amount and duration of performance bonds.

The amount and duration of the performance bond for surface mining and reclamation operations on Federal lands shall be in accordance with 30 CFR 805.

§742.15
Form of performance bonds.

The form of the performance bond shall be established by the Regional Director and shall include either--

(a) A surety bond;

(b) A collateral bond, which meets the requirements of 30 CFR 806.11; or,

(c) A self-bond, which meets the requirements of 30 CFR 806.11(b).

§742.16
Terms and conditions of performance bonds.

(a) The performance bond shall be conditioned upon faithful performance of all the requirements of the Act, this Chapter, and the permit and shall cover that area under permit upon which the surface coal mining and reclamation operations will be conducted during the initial term of the permit, in accordance with 30 CFR 806.12.

(b) Duration of the bond shall be determined under 30 CFR 805.13 and shall apply to each incremental expansion of the surface coal mining and reclamation operations.

(c) The amount of the bond and the requirements for acceptance of a bond may be adjusted by the Regional Director in accordance with 30 CFR 805.14.

§742.17
Terms and conditions for liability insurance.

The terms and conditions for liability insurance in 30 CFR 806 shall apply to operations on Federal lands, except the provisions for self-insurance equivalency in 30 CFR 806.14(d) shall apply only in states allowing self-insurance pursuant to an approved state program.

§742.18
Release of bonds.

(a) A Federal lease bond may be released by the authorized officer, upon satisfactory reclamation of a mine after cessation of operations as determined and approved by the Regional Director and the Mining Supervisor.

(b) A performance bond shall be released upon satisfactory reclamation of a mine in accordance with 30 CFR 807.

(c) When the surface of the lands in a lease, permit or license is not owned by the United States, the Regional Director shall notify the surface owner and take into account their comments before releasing the performance bond in accordance with 30 CFR 807.

(d) A Federal lessee protection bond shall be released upon the written consent of the lessee.

§742.19
Performance bond forfeiture criteria and procedures.

The performance bond on Federal lands shall be subject to foreiture in accordance with 30 CFR 808.

PART 743-- INSPECTIONS, ENFORCEMENT, AND CIVIL PENALTIES--FEDERAL LANDS

Sec.
743.1 Scope.
743.2 Objective.
743.4 Responsibilities.
743.11 General obligations.
743.12 Inspections.
743.13 Enforcement.

Authority: Secs. 102, 201, 517, 518, 521, 523, 525 of Pub. L. 95-87, 91 Stat. 448, 449, 498, 499, 504, 510, and 511 (30 U.S.C. 1202, 1211, 1267, 1268, 1271, 1273, 1275); and 41 Stat. 437, as amended (30 U.S.C. 181 et seq.).

§743.1
Scope.

This Part applies to inspection of surface coal mining and reclamation operations, enforcement of applicable laws, regulations, and permits, and assessment of civil penalties on Federal lands.

§743.2
Objective.

The objective of this Part is to establish requirements for inspection, enforcement, and assessment of civil penalties by the Office of Surface Mining and other agencies with respect to surface coal mining and reclamation operations on Federal lands.

§743.4
Responsibilities.

(a) The Regional Director is responsible for the inspection and enforcement of all coal exploration within the permit area and surface coal mining and reclamation operations on Federal lands, to ensure compliance with all applicable requirements of the Act and this Chapter; the approved exploration or surface coal mining and reclamation operations permit; and all terms, conditions, and stipulations of a lease, license, or permit issued under the Mineral Leasing Act

of 1920, as amended (30 USC 181) that are incorporated into an approved exploration or mining permit, and requirements of the Act, except as provided in paragraphs (b), (c) and (d) of this Section.

(b) The authorized State regulatory authority shall assume the inspection and enforcement functions of the Regional Director that are included in accordance with the provisions of an approved cooperative agreement under 30 CFR 745.

(c) The Mining Supervisor is responsible for inspection and enforcement on Federal lands with respect to compliance by persons conducting surface coal mining and reclamation operations with terms, conditions, and stipulations of leases, licenses and permits issued under the Mineral Leasing Act of 1920, and with provisions of an approved exploration plan or mining plan relating solely to requirements for development, production, and recovery of coal, including royalty audits and other non-field inspections.

(d) The authorized officer of the surface managing agency has the responsibility to ensure compliance with and enforcement of Federal laws and regulations relating to the use and disposal of non-coal Federal resources in the permit area.

§743.11
General obligations.

(a) Right of entry. Persons engaging in coal exploration or surface coal mining and reclamation operations shall provide access for any authorized representative of the Regional Director, the Mining Supervisor or the authorized officer of the surface managing agency to inspect the operations, without advance notice or a search warrant, upon presentation of appropriate credentials to determine whether the operations are in compliance with all applicable laws, regulations, notices and orders, terms and conditions of leases, permits or licenses, and the requirements of the approved mining plan.

(b) Records and Equipment. Any authorized representative of the Regional Director or the Mining Supervisor may, at reasonable times and without delay, have access to copy any records and to inspect any monitoring equipment or method of operation required under the Act, this Chapter, permit, lease, license or an approved mining plan in accordance with paragraph (a) of this Section.

(c) No search warrant shall be required with respect to any activity under paragraph (a) or (b) except entry into a building without consent of the person in control of the building.

§743.12
Inspections.

(a) Coal exploration and surface coal mining and reclamation operations on Federal lands shall be inspected under provisions of 30 CFR 840 and 842 in accordance with the responsibilities in Section 743.4. Inspections shall be conducted jointly when practical and when more than one government agency is involved. The Regional Director may enlist the aid of Federal inspectors from agencies other than the Office when necessary to ensure compliance with an approved exploration or mining permit.

(b) (1) The Regional Director shall coordinate inspections by Federal agencies. When the Mining Supervisor or the authorized officer of the surface managing agency determines that an inspection should be made, they shall notify the Regional Director. However, royalty audits and other non-field inspection by the Mining Supervisor need not be coordinated with the Regional Director.

(2) The Regional Director shall conduct at least one partial inspection per month and one complete inspection per calendar quarter of each surface coal mining and reclamation operation under his or her jurisdiction.

(c) The inspections required under this Section shall:

(1) Be carried out on an irregular basis;

(2) Occur without prior notice to the person being inspected or any agent or employee of that person, except as necessary for onsite meetings; and

(3) Include the prompt filing of inspection reports adequate to enforce the requirements of this Chapter.

§743.13
Enforcement.

(a) The provisions of 30 CFR 843 shall govern actions by the Regional Director to ensure compliance with the Act and this Chapter; an approved surface coal mining and reclamation operations permit, and all terms, conditions, and stipulations of a lease, license, or permit issued under the Mineral Leasing Act of 1920, as amended (30 USC 181), that are incorporated into the permit.

(b) The Mining Supervisor shall take necessary action to ensure compliance with 30 CFR 211 for exploration outside the permit area and for coal development, production and recovery requirements.

(c) Civil penalties. Civil penalties for the violation of provisions of the Act, this Chapter, and the permit shall be assessed by the Office, in accordance with 30 CFR 845.

PART 744-- PERFORMANCE STANDARDS FOR FEDERAL LANDS

Sec.
744.1 Scope.
744.11 Performance standards: Exploration.
744.12 Performance standards: Mining and reclamation.
744.13 Performance standards: Completion of operations and abandonment.

Authority: Secs. 102, 201, 508, 512, 515, 516, 517, 519, 523, 701, 717, and 719 of Pub. L. 95-87, 91 Stat. 448, 449, 486, 490, 495, 498, 501, 510, 516, 526 (30 U.S.C. 1202, 1211, 1258, 1262, 1265, 1266, 1267, 1269, 1273, 1301, 1307, and 1309); and 41 Stat. 437, as amended (30 U.S.C. 181 et seq.).

§744.1
Scope.

This Part establishes environmental protection performance standards to govern the conduct of all coal exploration within a permit area and all surface coal mining and reclamation operations on Federal lands.

§744.11
Performance standards: Exploration.

Coal exploration on Federal lands within a permit area shall be conducted pursuant to the requirements of the permit, 30 CFR 815, and the following--

(a) Surveillance wells. After approval of the Regional Director, in consultation with the Mining Supervisor and in accordance with 30 CFR 815.5 and 30 CFR 816.14 or 817.14 drill or bore holes may be utilized as surveillance wells for the purpose of monitoring the effect of subsequent operations upon the quantity, quality, or pressure of ground water or mine gases.

(b) Blowout control devices. When drilling on lands that are valuable or potentially valuable for oil and gas or geothermal resources, the person conducting coal exploration shall, when required by the Regional Director in consultation with the Mining Supervisor, set and cement casing in the hole and install suitable blowout prevention equipment.

(c) Use of wells by others. Upon receipt of a written request from the surface owner or the appropriate authorized officer, the Regional Director, in consultation with the Mining Supervisor, may approve the transfer of an exploratory well for further use as a water well. Approval of the well transfer shall be accompanied by a corresponding transfer of responsibility for any liability for compliance with the Act, this Chapter, damage from use or maintenance of the well and eventual plugging. Nothing in this paragraph shall supersede or affect the applicability of any State law with respect to that transfer. No person engaged in exploration shall be relieved of responsibility for exploration wells except to the extent set forth in an approval granted under this paragraph.

§744.12
Performance standards: Mining and reclamation.

(a) All surface coal mining and reclamation operations on Federal lands shall be conducted in accordance with the requirements of 30 CFR Subchapter K; the terms and conditions of the surface coal mining and reclamation operations permit; and the terms, conditions, and stipulations of the lease, license, or permit issued under the Mineral Leasing Act of 1920, as amended (30 USC 181 et seq.) and regulations promulgated thereunder.

(b) Surface coal mining and reclamation operations shall be conducted to maximize the utilization and conservation of the solid fuel resources being recovered, so that reaffecting lands in the future through surface coal mining can be minimized. However, the requirements of the Mineral Leasing Act of 1920, as amended, (30 USC 181) and the regulations adopted thereunder, for maximum economic recovery and diligent development shall not be diminished by the requirement to maximize utilization and conservation.

§744.13
Performance standards: Completion of operations and abandonmen

(a) Temporary abandonment. Each person who conducts surface coal mining and reclamation operations shall, in areas in which there are no current operations, comply with 30 CFR 816.131 or 817.131, as appropriate, and post conspicuous signs at the location of all surface openings to prohibit entry of unauthorized persons.

(b) Permanent abandonment.

(1) Before permanent abandonment of coal exploration or surface mining and reclamation operations, all affected areas shall be closed, backfilled, or permanently reclaimed in accordance with 30 CFR 816.132 or 817.132 as appropriate. In addition, drill holes, trenches, and other excavations for coal exploration, development, or prospecting shall be abandoned in a manner that protects the surface and does not endanger any present or future underground mining activities or any deposit of oil, gas, other mineral resources, or ground water.

(2) Methods of permanent abandonment shall be approved in advance, by the Regional Director, under the mine plan. Abandonment shall include backfilling, regrading, revegetating, cementing, and capped casing, combinations of these or other methods, in accordance with the requirements of Subchapter K of this Chapter. Reclamation and clean-up of permanently abandoned surface coal mining and reclamations operations shall commence, without delay, following cessation of mining operations.

(c) Notice of abandonment.

(1) Not less than 30 days prior to permanent cessation or abandonment of surface coal mining and reclamation operations, the person conducting those operations shall submit to the Regional Director, in duplicate, a notice of intention to cease or abandon those operations, with a statement of the exact number of acres affected by the operations, the extent and kind of reclamation accomplished, and a statement as to the structures and other facilities that are to be removed from or remain on the permit area.

(2) Upon receipt of this notice, the Regional Director, the Mining Supervisor, and the appropriate authorized officer shall promptly make joint inspections, to determine whether all operations have been completed, in accordance with the requirements of the Act; this Chapter; the surface coal mining and reclamation operations permit, terms, conditions; and stipulations of all leases, permits, or licenses, and the requirements of the approved mining plan. Where all of these requirements have been complied with, the Regional Director shall recommend to the appropriate authorized officer, termination of the liability of the person conducting surface coal mining and reclamation operations under the lease bond.

(d) Surface owner participation. Where the surface of lands under a lease, permit, or license is not owned by the United States, the Regional Director shall comply with the provisions of 30 CFR 742.18(b) and (c).

(e) Public participation. Prior to approval of final abandonment and release of the performance bond the Regional Director shall comply with the requirements of 30 CFR 807.

PART 745-- STATE-FEDERAL COOPERATIVE AGREEMENTS

Sec.
745.1 Scope.
745.2 Objective.
745.4 Responsibilities.
745.11 Application and agreement.
745.12 Terms.
745.13 Authority reserved by the Secretary.
745.14 Amendments.
745.15 Termination.
745.16 Reinstatement.

Authority : Secs. 102, 201, 503, 507, 517, 518, 521, and 523 of Pub. L. 95-87, 91 Stat. 448, 449, 470, 474, 498, 499, 504, and 510 (30 U.S.C. 1202, 1211, 1253, 1257, 1267, 1268, 1271, 1273); and 41 Stat. 437, as amended (30 U.S.C. 181 et seq.).

§745.1
Scope.

This part sets forth requirements for the developemnt, approval, administration, and enforcement of cooperative agreements under Section 523(c) of the Act.

§745.2
Objective.

The objective of this Part is to provide for the uniform application of environmental and reclamation standards to surface coal mining operations located within a State. This is to be accomplished by cooperative agreements the basic purpose of which is to reduce duality of administration and enforcement of surface reclamation requirements by providing State regulation of surface coal mining and reclamation operations on Federal lands within the State.

§745.4
Responsibilities.

(a) The Secretary is responsible for entering into, approving, revising and terminating cooperative agreements and for the approval of mining plans on Federal lands.

(b) The Regional Director is responsible for recommending approval or disapproval of cooperative agreements to the Director.

(c) The Director is responsible for recommending approval or disapproval of cooperative agreements to the Secretary.

(d) The State regulatory authority is responsible for effectively administering, maintaining, and enforcing an approved cooperative agreement. This includes coordination with the appropriate Federal and State agencies.

§745.11
Application and agreement.

(a) The Governor of any State may request that the Secretary enter into a cooperative agreement with the State, if the State has an approved State program or has submitted a program for approval under 30 CFR 731, and has or will have within the State surface coal mining operations which are being conducted under the terms of a Federal lease.

(b) A request for a cooperative agreement shall be submitted in writing and, except to the extent previously submitted in the State program plan, shall include the following information:

(1) A copy of the budget of the State regulatory authority;

(2) A summary description of the State regulatory authority duties other than for surface coal mining and reclamation operations and the proportion of its staff assigned to these duties.

(3) The best available figures showing a comparison of the total non-Federal and Federal acres of minable coal within the State and the number and extent of non-Federal, Federal and mixed non-Federal/Federal surface mining operations in the State.

(4) An organization chart and description of the staff of the State regulatory authority which states the number and types of technical and professional personnel available for administration of the cooperative agreement;

(5) A description of the procedures which the State proposes to follow in enforcing its statutes and regulations for the regulation of surface coal mining and reclamation operations on Federal lands and a statement of the number of employees listed in paragraph (b)(4) of this Section and the amount of their time which will be available for enforcement.

(6) A description of the administrative staff of the State regulatory authority available for enforcement on Federal lands;

(7) Proposed terms of the agreement consistent with the requirements of this Part; and,

(8) A certification by the Attorney General or the chief legal officer of the regulatory authority of the State that no State statutory, regulatory or legal constraint exists which would limit the capability of the State regulatory authority to fully comply with the requirements of this Part and of the proposed cooperative agreement.

(c) The Director shall publish a notice of the request and the full text of the terms of the proposed cooperative agreement in the Federal Register, as proposed rules, and a notice of the request and summary of the terms of the proposed agreement in newspapers of general circulation throughout the State. Both notices shall also include:

(1) The date, time and place of the public hearing(s) on the request, to be held according to paragraph (d) of this section;

(2) The location of each office of the State regulatory authority and the name of the person in that office from whom a complete copy of the request submitted by the State may be obtained; and,

(3) A date, not less than 60 days after publication of the notices, within which members of the public may submit written comments on the request and the person to whom comments should be addressed,

(d) Not less than 30 days after publication of the notice required in paragraph (c) of this Section, a public hearing shall be held in a suitable location in the State requesting the cooperative agreement. This hearing may be combined with public hearings required under 30 CFR 732, for the Secretary's consideration of approval of a State program submission, if appropriate.

(e) Before the expiration of the comment period, the Director shall consult with the Director of U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, the U.S. Geological Survey, and other Federal surface managing agencies with respect to the request.

(f) The Director shall recommend to the Secretary that he enter into a cooperative agreement with a State, if the Director finds that:

(1) The State has an approved State program.

(2) The State regulatory authority has sufficient budget, equipment and personnel to enforce fully the State's statutes and regulations for the regulation of surface coal mining and reclamation operations on Federal lands in the State.

(3) The State has the legal authority to administer the cooperative agreement.

(g) The Secretary shall publish in the Federal Register his decision with respect to a request by a State to enter into a cooperative agreement and the reasons therefor. If he enters into a cooperative agreement, the Secretary shall publish the full text of the final terms of the agreement in the Federal Register.

§745.12
Terms.

Each cooperative agreement shall include:

(a) Terms obligating the State regulatory authority to inspect operations and to enforce the requirements of the approved State program on Federal lands and describing each applicable provision of the State's applicable statutes, regulations and policies;

(b) A description of the powers and authority reserved by the Secretary, including those specified under section 745.13;

(c) Provisions for regular reports on the results of the State's implementation, administration, and enforcement under the cooperative agreement by the State regulatory authority to the Regional Director;

(d) Terms obligating the State regulatory authority to maintain sufficient personnel and facilities to comply with the terms of the agreement, and to notify the Regional Director of any substantial change in State statutes, regulations, funding, staff, or other changes which would affect the State's ability to administer and enforce the cooperative agreement; and

(e) Terms for coordination among the State regulatory authority, the surface managing agencies, the U.S. Geological Survey and the Office.

(f) Provisions for establishing the amount and collection procedures for permit application fees on Federal lands.

§745.13
Authority reserved by the Secretary.

The Secretary shall not delegate to any State, nor shall any cooperative agreement be construed to delegate to any State, authority over or responsibility for--

(a) The designation of Federal lands as unsuitable for surface coal mining under Subchapter F of this Chapter or the termination of such disignations;

(b) The preparation of environmental impact statements or assessments as required by Federal law;

(c) The development of land use management plans for Federal lands;

(d) The regulation of non-coal mining activities on Federal lands;

(e) The determination of when, where, and how to lease Federal coal and how much to lease;

(f) The development of the terms for Federal coal leases, including special terms relating to mining and reclamation procedures;

(g) The evaluation of the Federal coal resource;

(h) Royalties, rents, and bonuses charged in connection with Federal coal leases;

(i) The approval or significant modification of any mining plans on Federal lands;

(j) The enforcement of Federal lease terms, including diligent development and maximum economic recovery requirements;

(k) Approval or determination of post-mining land use for Federal lands; and,

(l) The release of Federal lease bonds.

§745.14
Amendments.

A cooperative agreement, which has been approved pursuant to 30 CFR 745.11, may be amended by mutual agreement of the Secretary and the Governor or State regulatory authority of a State. Amendments shall be adopted by Federal rulemaking, in accordance with section 745.11.

§745.15
Termination.

(a) Termination by the State. A cooperative agreement may be terminated by the State upon written notice to the Secretary, specifying the date upon which the cooperative agreement shall be terminated. The date of termination shall not be less than 90 days from the date of the notice.

(b) Termination by the Secretary. A cooperative agreement may be terminated by the Secretary after giving notice to the State regulatory authority and affording the State regulatory authority and the public an opportunity for a public hearing, and comment period, in accordance with the approved State-Federal cooperative agreement, if the Secretary finds that:

(1) The State regulatory authority has substantially failed to comply with the requirements of this Subchapter, the approved State program, or provisions of the approved cooperative agreement; or

(2) The State regulatory authority has failed to comply with any undertakings by the State in the cooperative agreement upon which approval of the State program, cooperative agreement, or grants by the Office for administration or enforcement of the State program or cooperative agreement were based.

(c) Termination by operation of law. Any cooperative agreement shall terminate--

(1) When no longer authorized by Federal law or the applicable State laws and regulations; or

(2) Upon termination or withdrawal of the Secretary's approval of the applicable State program.

§745.16
Reinstatement.

(a) A State may apply for reinstatement of the cooperative agreement by providing written evidence to the Director that the State has remedied all defects for which the agreement was terminated and is fully capable of complying with the requirements of the cooperative agreement. Any reinstatement shall be by Federal rulemaking in accordance with section 745.11.

(b) The Director may recommend approval of the reinstatement to the Secretary, if he or she finds that the State meets all the requirements for the initial approval of a cooperative agreement under this Subchapter.

(c) The Secretary may approve reinstatement of a cooperative agreement if the Secretary concurs in findings of the Director which recommended that approval.

SUBCHAPTER F -- AREAS UNSUITABLE FOR MINING

PART 760 -- GENERAL

Sec.	
760.1	Scope.
760.2	Objectives.
760.3	Authority.
760.4	Responsibility.

Authority : Sections 102, 201, 501(b), 503, 504, 505, 510, 517(f), 522, and 523, Pub. L. 95-87, 91 Stat. 448, 449, 468, 470, 471, 473, 480, 499, 507, and 510 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1255, 1260, 1267(f), 1272, and 1273).

§760.1
Scope.

This Subchapter establishes procedures for implementing the requirements of the Act for designating lands unsuitable for all or certain types of surface coal mining operations, for terminating such designations and for identifying lands on which surface coal mining operations are limited or prohibited under Section 522(e) of the Act and for implementing those limits and prohibitions.

§760.2
Objectives.

The objectives of this Subchapter are to establish --

(a) Procedures for consideration of petitions for the designation of lands as unsuitable for all or certain types of surface coal mining operations, for the termination of these designations, and for public participation in petition proceedings;

(b) The minimum standards for obtaining, maintaining and analyzing information on the effects of coal development in areas covered by a petition in light of other potential uses and activities;

(c) Procedures for identifying lands on which mining is prohibited or limited by Section 522(e) of the Act (30 U.S.C. 1272(e)) and for implementing those prohibitions or limitations; and

(d) Criteria for determining if an area should be designated as unsuitable for all or certain types of surface coal mining operations.

§760.3
Authority.

(a) Each State regulatory authority is authorized, under Sections 522 (a) and (c) of the Act (30 U.S.C. 1272 (a) and (e)), to establish a data base and inventory system and a petition process to designate any non-Federal and non-Indian land areas of the State as unsuitable for all or certain types of surface coal mining operations.

(b) The Secretary is authorized, under Sections 522(b) and (c) of the Act (30 U.S.C. 1272 (b) and (c)), to:

(1) Conduct a review of Federal lands to determine whether any area on Federal lands is unsuitable for all or certain types of surface coal mining operations;

(2) Establish a process for the public to petition to have an area of Federal lands designated as unsuitable for all or certain types of surface coal mining operations; and

(3) Implement, as part of a Federal program for a State, a process for designation of areas unsuitable for surface coal mining operations on non-Federal lands within a State.

§760.4
Responsibility.

Section 522 of the Act (30 U.S.C. 1272) requires that:

(a) The Secretary shall conduct a review of Federal coal lands to determine whether there are areas which are unsuitable for surface coal mining operations;

(b) In order to be eligible to assume primary regulatory authority, a State shall establish a process that includes a data base and inventory system for designating lands unsuitable for surface coal mining operations which shall be available to the public;

(c) The regulatory authority shall integrate as closely as possible decisions to designate lands as unsuitable for surface coal mining operations with present and future land-use planning and regulation processes at the Federal, State, and local levels;

(d) The regulatory authority shall establish a process that allows any person having an interest which is or may be adversely affected to petition to have an area designated as unsuitable for all or certain types of surface coal mining operations, or to have a designation terminated;

(e) The regulatory authority shall prohibit or limit surface coal mining operations mining on certain lands and in certain locations designated by Congress in Section 522(e) of the Act (30 U.S.C. 1272 (e));

PART 761 -- AREAS DESIGNATED BY ACT OF CONGRESS

Sec.
761.1 Scope.
761.2 Objective.
761.3 Authority.
761.4 Responsibility.
761.5 Definitions.
761.11 Areas where mining is prohibited or limited.
761.12 Procedures.

Authority: Sections 102, 201, 501(b), 503, 504, 510, 512, 513, 514, 522, and 701 Pub. L. 95-87, 91 Stat. 448, 449, 468, 470, 471, 480, 483, 484, 485, 507 and 518 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1260, 1262, 1263, 1264, 1272 and 1291).

§761.1
Scope.

This Part establishes the procedures and standards to be followed in determining whether a proposed surface coal mining and reclamation operation can be permitted in light of the prohibitions and limitations in section 522(e) of the Act for those types of operations on certain Federal, public and private lands.

§761.2
Objective.

The objective of this Part is to implement the prohibitions and limitations for surface coal mining operations on or near certain private Federal, and other public lands under section 522(e) of the Act.

§761.3
Authority.

The State regulatory authority or the Secretary under Section 522(e) of the Act (30 U.S.C. 1272(e)), is authorized to prohibit or limit surface coal mining operations on or near certain private Federal, and other public lands, except for those operations which existed on August 3, 1977, or were subject to valid existing rights on that date.

§761.4
Responsibility.

(a) The Secretary shall --

(1) Determine whether any application for a permit for surface coal mining and reclamation operations on Federal lands must be denied, limited or conditioned because operations on those lands are prohibited or limited by Section 522(e) of the Act (30 U.S.C. 1272(e)) and this Part;

(2) Determine, based upon a showing by an applicant, whether an applicant for a permit covering Federal lands either --

(i) Had any valid existing rights on August 3, 1977; or

(ii) Was conducting an existing surface coal mining operation on those lands on August 3, 1977.

(3) Withdraw lands designated unsuitable for all or certain types of surface coal mining operations from leasing.

(b) The State regulatory authority shall --

(1) Comply with this Part and Subchapter G; and

(2) Determine whether an application for a permit must be denied because surface coal mining operations on those lands are prohibited or limited by Section 522(e) of the Act (30 U.S.C. 1272(e)) and this Part and whether an applicant for a permit covering such lands either had any valid existing rights on August 3, 1977, or was conducting a surface coal mining operation on those lands on August 3, 1977.

(c) In States where a complete Federal program or a partial Federal program including the designation process has been implemented, the Director shall determine--

(1) Whether any application for a permit for surface coal mining operations on non-Federal and non-Indian lands must be denied because the operations on those lands are prohibited or limited by section 522(e) of the Act; and

(2) Whether an applicant for a permit covering non-Federal lands, either had any valid existing rights on August 3, 1977, or was conducting an existing surface coal mining operation on those lands on August 3, 1977.

§761.5
Definitions.

For the purposes of this Part --

Valid existing rights means:

(a) Except for haul roads,

(1) Those property rights in existence on August 3, 1977, that were created by a legally binding conveyance, lease, deed, contract or other document which authorizes the applicant to produce coal by a surface coal mining operation; and

(2) The person proposing to conduct surface coal mining operations on such lands either

(i) Had been validly issued, on or before August 3, 1977, all State and Federal permits necessary to conduct such operations on those lands, or

(ii) Can demonstrate to the regulatory authority that the coal is both needed for and immediately adjacent to an ongoing surface coal mining operation for which all permits were obtained prior to August 3, 1977;

(b) For haul roads, valid existing rights mean: (1) A recorded right of way, recorded easement or a permit for a coal haul road as of August 3, 1977, or

(2) Any other road in existence as of August 3, 1977;

(c) Interpretation of the terms of the document relied upon to establish rights shall be based upon the usage and custom at the time and place where it came into existence and upon a showing by the applicant that the parties to the document actually contemplated a right to conduct the same underground or surface mining activities for which the applicant claims a valid existing right;

(d) "Valid existing rights" does not mean mere expectation of a right to conduct surface coal mining operations or the right to conduct underground coal mining. Examples of rights which alone do not constitute valid existing rights include coal exploration permits or licenses, applications or bids for leases, or where a person has only applied for a State or Federal permit.

No significant recreational, timber, economic or other values incompatible with surface coal mining operations means those significant values which could be damaged by, and are not capable of existing together with surface coal mining operations because of the undesirable effects mining would have on those values, either on the area included in the permit application or on off-site areas which could be affected by mining. Those values to be evaluated for their importance include:

(a) Recreation, including hiking, boating, camping, skiing or other related outdoor activities;

(b) Timber management and silviculture;

(c) Agriculture, aquaculture, or production of other natural, processed or manufactured products which enter commerce;

(d) Scenic, historic, archeologic, esthetic, fish, wildlife or cultural interests.

Surface operations and impacts incident to an underground coal mine means all activities involved in or related to underground coal mining which are either conducted on the surface of the land, produce changes in the land surface or disturb the surface, air or water resources of the area, including all activities listed in section 701(28) of the Act and the definition of surface coal mining operations appearing in 30 CFR 700.5.

Significant forest cover means an existing plant community consisting predominantly of trees and other woody vegetation. The Secretary of Agriculture shall decide on a case-by-case basis whether the forest cover is significant within those national forests west of the 100th meridian.

Occupied dwelling means any building that is currently being used on a regular or temporary basis for human habitation.

Public building means any structure that is owned by a public agency or used principally for public business, meetings or other group gatherings.

Community or institutional building means any structure, other than a public building or an occupied dwelling, which is used primarily for meetings, gatherings or functions of local civic organizations or other community groups; or functions as an educational, cultural, historic, religious, scientific, correctional, mental-health or physical health care facility; or is used for public services, including, but not limited to, water supply, power generation or sewage treatment.

Surface coal mining operations which exist on the date of enactment means all surface coal mining operations which were being conducted on August 3, 1977.

Public park means an area dedicated or designated by any Federal, State, or local agency for public recreational use, whether or not such use is limited to certain times or days, including any land leased, reserved or held open to the public because of that use.

Public road means any thoroughfare open to the public for passage of vehicles.

Cemetery means any area of land where human bodies are interred.

§761.11
Areas where mining is prohibited or limited:

Subject to valid existing rights, no surface coal mining operations shall be conducted after August 3, 1977, unless those operations existed on the date of enactment:

(a) On any lands within the boundaries of the National Park System, the National Wildlife Refuge System, the National System of Trails, the National Wilderness Preservation System, the Wild and Scenic Rivers System, including study rivers designated under Section 5(a) of the Wild and Scenic Rivers Act (16 U.S.C. 1276(a)), and National Recreation Areas designated by Act of Congress.

(b) On any Federal lands within the boundaries of any national forest; provided, however, that surface coal mining operations may be permitted on such lands, if the Secretary finds that there are no significant recreational, timber, economic, or other values which may be incompatible with surface coal mining operations; and

(1) Surface operations and impacts are incident to an underground coal mine; or

(2) The Secretary of Agriculture determines, with respect to lands which do not have significant forest cover within those national forests west of the 100th meridian, that surface coal mining operations comply with the Multiple-Use Sustained Yield Act of 1960 (16 U.S.C. 528-531), the Federal Coal Leasing Amendments Act of 1975 (90 Stat. 1083), and the National Forest Management Act of 1976 (90 Stat. 2949), and the provisions of the Act. No surface coal mining operation

may be permitted within the boundaries of the Custer National Forest;

(c) On any lands which will adversely affect any publicly owned park or any places included in, or eligible for listing in, the National Register of Historic Places, unless approved jointly by the regulatory authority and the Federal, State or local agency with jurisdiction over the park or places.

(d) Within 100 feet measured horizontally of the outside right-of-way line of any public road, except--

(1) Where mine access roads or haulage roads join such right-of-way line; or

(2) Where the regulatory authority allows the public road to be relocated or the area affected to be within 100 feet of such road, after

(i) Public notice and opportunity for a public hearing in accordance with Section §761.12(d); and,

(ii) Making a written finding that the interests of the affected public and landowners will be protected;

(e) Within 300 feet measured horizontally from any occupied dwelling, unless the owner thereof has provided a written waiver consenting to surface coal mining operations closer than 300 feet;

(f) Within 300 feet measured horizontally of any public building, school, church, community or institutional building or public park; or

(g) Within 100 feet measured horizontally of a cemetery.

§761.12
Procedures.

(a) Upon receipt of a complete application for a surface coal mining and reclamation operation permit, the regulatory authority shall review the application to determine whether surface coal mining operations are limited or prohibited under Section §761.11 on the lands which would be disturbed by the proposed operation.

(b) (1) Where the proposed operation would be located on any lands listed in Section 761.11 (a), (f) or (g), the regulatory authority shall reject the application if the applicant had no valid existing rights for the area on August 3, 1977 or if the operation did not exist on the date of enactment.

(2) If the regulatory authority is unable to determine whether the proposed operation is located within the boundaries of any of the lands in Section §761.11(a) or closer than the limits provided in Section §761.11 (f) and (g), the regulatory authority shall transmit a copy of the relevant portions of the permit application to the appropriate Federal, State or local government agency for a determination or clarification of the relevant boundaries or distances, with a

notice to the appropriate agency that it must respond within 30 days of receipt of the request.

(c) Where the proposed operation would include Federal lands within the boundaries of any national forest, and the applicant seeks a determination that mining is permissible under Section §761.11(b) of this part, the applicant shall submit a permit application to the Regional Director for processing under 30 CFR Subchapter D. Before acting on the permit application, the Director shall insure that the Secretary's determination has been received and the findings required by Section 522(e)(2) of the Act (30 U.S.C. 1272(e)(2)) have been made.

(d) Where the proposed mining operation is to be conducted within 100 feet measured horizontally of the outside right-of-way line of any public road (except where mine access roads or haulage roads join such right-of-way line) or where the applicant proposes to relocate any public road, the regulatory authority shall --

(1) Require the applicant to obtain necessary approvals of the authority with jurisdiction over the public road.

(2) Provide notice in a newspaper of general circulation in the affected locale of a public hearing at least 2 weeks before the hearing;

(3) Provide an opportunity for a fact-finding public hearing at which any member of the public may participate in the locality of the proposed mining operations for the purpose of determining whether the interests of the public and affected landowners will be protected; and

(4) Make a written finding based upon information received at the public hearing within 30 days after completion of the hearing as to whether the interests of the public and affected landowners will be protected from the proposed mining operations.

(e) Where the proposed surface coal mining operations would be conducted within 300 feet measured horizontally of any occupied dwelling, the applicant shall submit with the application a written waiver of the owner of the dwelling, consenting to such operations within a closer distance of the dwelling as specified in the waiver. The waiver must be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver.

(f) (1) Where the proposed surface coal mining operation may adversely affect any public park or any places included on, or eligible for listing in, the National Register of Historic Places, the regulatory authority shall transmit to the Federal, State or local agencies with jurisdiction over or a statutory or regulatory responsibility for the park or historic place a copy of the completed permit application containing the following:

(i) A request for that agency's approval or disapproval of the operations;

(ii) A notice to the appropriate agency that it must respond within 30 days from receipt of the request.

(2) A permit for the operation shall not be issued unless jointly approved by all affected agencies.

(g) If the regulatory authority determines that the proposed surface coal mining operation is not prohibited under Section 522(e) of the Act and this part, it may nevertheless, pursuant to appropriate petitions, designate such lands as unsuitable for all or certain types of surface coal mining operations pursuant to 30 CFR 762, 764, 765 or 769.

(h) A determination of a State regulatory authority that a person holds or does not hold a valid existing right or that surface coal mining operations did or did not exist on the date of enactment §shall be subject to administrative and judicial review under 30 CFR 787. A determination of these issues by the Director concerning any Federal lands or under a Federal program shall be subject to administrative and judicial review under 30 CFR 787.

186 PART 762 -- CRITERIA FOR DESIGNATING AREAS AS UNSUITABLE FOR SURFACE COAL MINING OPERATIONS

Sec.	
762.1	Scope.
762.4	Responsibility.
762.5	Definitions.
762.11	Criteria for designating lands as unsuitable.
762.12	Additional criteria.
762.13	Land exempt from designation as unsuitable for surfac mining operations.
762.14	Exploration of land designated as unsuitable for surf mining operations.

Authority. Sections 102, 201, 501(b), 503, 504, 512, and 522 of Pub. L. 95-87, 91 Stat. 448, 449, 468, 470, 471, 483, 507 (30 U.S.C. 1201, 1211, 1251, 1253, 1254, 1262, and 1272).

§762.1
Scope.

This Part establishes the minimum criteria to be used in determining whether lands should be designated as unsuitable for all or certain types of surface coal mining operations.

§762.4
Responsibility.

The regulatory authority shall use the criteria in this part for the evaluation of each petition for the designation of areas as unsuitable for surface coal mining operations.

§762.5
Definitions.

For purposes of this Part:

Fragile lands means geographic areas containing natural, ecologic, scientific or esthetic resources that could be damaged or destroyed by surface coal mining operations. Examples of fragile lands include valuable habitats for fish, wildlife, critical habitats for endangered or threatened species of animals or plants, uncommon geologic formations, National Natural Landmark sites, areas where mining may cause flooding, environmental corridors containing a concentration of ecologic and esthetic features, areas of recreational value due to high environmental quality, and buffer zones adjacent to the boundaries of areas where surface coal mining operations are prohibited under Section 522(e) of the Act and 30 CFR 761.

Historic lands means historic or cultural districts, places, structures or objects, including archeological and paleontological sites, natural historic landmark sites, sites listed in or eligible for listing in a State or National Register of Historic Places, sites having religious or cultural significance to native Americans or religious groups or sites for which historic designation is pending.

Natural hazard lands means geographic areas in which natural conditions exist which pose or, as a result of surface coal mining operations, may pose a threat to the health, safety or welfare of people, property or the environment. This includes areas subject to landslides, cave-ins, large or encroaching sand dunes, severe wind or soil erosion, frequent flooding, avalanches and areas of unstable geology.

Substantial legal and financial commitments in a surface coal mining operation means significant investments that have been made on the basis of a long-term coal contract in power plants, railroads, coal-handling, preparation, extraction or storage facilities and other capital-intensive activities. An example would be an existing mine, not actually producing coal, but in a substantial stage of development prior to production. Costs of acquiring the coal in place or of the right to mine it without an existing mine, as described in the above example, alone are not sufficient to constitute substantial legal and financial commitments.

§762.11
Criteria for designating lands as unsuitable.

(a) Upon petition an area shall be designated as unsuitable for all or certain types of surface coal mining operations, if the regulatory authority determines that reclamation is not technologically and economically feasible under the Act, this Chapter and an approved State program.

(b) Upon petition an area may be (but is not required to be) designated as unsuitable for certain types of surface coal mining operations, if the operations will --

(1) Be incompatible with existing State or local land use plans or programs;

(2) Affect fragile or historic lands in which the operations could result in significant damage to important historic, cultural, scientific, or esthetic values or natural systems;

(3) Affect renewable resource lands in which the operations could result in a substantial loss or reduction of long-range productivity of water supply or of food or fiber products; or

(4) Affect natural hazard lands in which the operations could substantially endanger life and property, such lands to include areas subject to frequent flooding and areas of unstable geology.

762.12
Additional criteria

(a) A state regulatory authority may establish additional or more stringent criteria for determining whether lands within the state should be designated as unsuitable for surface coal mining operations. Such criteria shall be approved pursuant to subchapter C of this Chapter.

(b) The Secretary may establish additional criteria for determining whether Federal lands should be designated as unsuitable for surface mining operations.

(c) Additional criteria will be determined to be more stringent on the basis of whether they provide for greater protection of the public health, safety and welfare or the environment, such that areas beyond those specified in the criteria of this part would be designated as unsuitable for surface coal mining operations.

§762.13
Land exempt from designation as unsuitable for surface coal mining operations.

The requirements of this Part shall not apply to --

(a) Lands on which surface coal mining operations were being conducted on the date of enactment;

(b) Lands covered by a permit issued under the Act; or

(c) Lands where substantial legal and financial commitments in surface coal mining operations were in existence prior to January 4, 1977.

§762.14
Exploration on land designated as unsuitable for surface coal mining operations.

Designation of any area as unsuitable for all or certain types of surface coal mining operations pursuant to Section 522 of the Act and regulations of this Subchapter does not prohibit coal exploration operations in the area, if conducted in accordance with the Act, this Chapter, any approved State or Federal program, and other applicable requirements. Exploration operations on any lands designated unsuitable for surface coal mining operations must be approved by the regulatory authority under 30 CFR 776, to insure that exploration does not interfere with any value for which the area has been designated unsuitable for surface coal mining.

186 PART 764 -- STATE PROCESSES FOR DESIGNATING AREAS UNSUITABLE FOR SURFACE COAL MINING OPERATIONS

Sec.
764.1 Scope.
764.2 Objective.
764.3 Authority.
764.11 Procedures: General process requirements.
764.13 Procedures: Petitions.
764.15 Procedures: Initial processing, recordkeeping, and notification requirements.
764.17 Procedures: Hearing requirements.
764.19 Procedures: Decision.
764.21 Data base and inventory system requirements.
764.23 Public information.
764.25 Regulatory authority responsibility for implementatio

Authority : Sections 102, 201, 503, and 522, Pub. L. 95-87, 91 Stat. 448, 449, 470 and 507 (30 U.S.C. 1202, 1211, 1253, and 1272).

§764.1
Scope.

This Part establishes minimum procedures and standards to be included in each approved State program for designating non-Federal and non-Indian lands in a State as unsuitable for all or certain types of surface coal mining operations and for terminating designations.

§764.2
Objective.

The objective of this Part is to insure that States administering the Act on non-Federal and non-Indian lands implement processes to designate lands unsuitable for all or certain types of surface coal mining operations and for terminating designations.

§764.3
Authority.

(a) The Secretary has authority to approve or disapprove the procedures and standards in State programs to designate lands as unsuitable for all or certain types of surface coal mining operations and for terminating such designations.

(b) The States have authority to develop and include in their State programs procedures and standards, consistent with this Part, to designate lands unsuitable for all or certain types of surface coal mining operations and to terminate such designations.

§764.11
Procedures: General process requirements.

Each State shall establish a process enabling objective decisions to be made on which, if any, land areas of the State are unsuitable for all or certain types of surface coal mining operations. These decisions shall be based on competent, scientifically sound data and other relevant information. This process shall include the requirements listed in Sections 764.13-764.25.

§764.13

Procedures: Petitions.

(a) Right to petition. Any person having an interest which is or may be adversely affected has the right to petition the regulatory authority to have an area designated as unsuitable for surface coal mining operations, or to have an existing designation terminated.

(b) Designation. The only information that a petitioner need provide is:

(1) The location and size of the area covered by the petition;

(2) Allegations of facts and supporting evidence which would tend to establish that the area is unsuitable for all or certain types of surface coal mining operations;

(3) A description of how mining of the area has affected or may adversely affect people, land, air, water or other resources;

(4) The petitioner's name, address and telephone number; and

(5) Identification of the petitioner's interest which is or may be adversely affected.

(c) Termination. The only information that a petitioner need provide to terminate a designation is:

(1) The location and size of the area covered by the petition;

(2) Allegations of facts, with supporting evidence, not contained in the record of the proceeding in which the area was designated unsuitable, which would tend to establish the statements or allegations, and which statements or allegations indicate that the designation should be terminated based on --

(i) The nature or abundance of the protected resource or condition or other basis of the designation if the designation was based on criteria found in 30 CFR 762.11(b); or

(ii) Reclamation now being technologically and economically feasible, if the designation was based on the criteria found in 30 CFR 762.11(a); or

(iii) The resources or condition not being affected by surface coal mining operations, or in the case of land use plans, not being incompatible with surface coal mining operations during and after mining, if the designation was based on the criteria found in 30 CFR 762.11(b);

(3) The petitioner's name, address and telephone number; and

(4) Identification of the petitioner's interest which is or may be adversely affected by the continuation of the designation.

§764.15

Procedures: Initial processing, recordkeeping, and notificatio requirements.

(a) (1) Within 30 days of receipt of a petition, the regulatory authority shall notify the petitioner by certified mail whether or not the petition is complete under Sections 764.13 (b) or (c).

(2) The regulatory authority shall determine whether any identified coal resources exist in the area covered by the petition, without requiring any showing from the petitioner. If the regulatory authority finds there are not any identified coal resources in that area, it shall return the petition to the petitioner with a statement of the findings.

(3) The regulatory authority may reject petitions for designations or terminations of designations which are frivolous. Once the requirements of Part 764.13 are met, no party shall bear any burden of proof, but each accepted petition shall be considered and acted upon by the regulatory authority pursuant to Part 764 of these regulations.

(4) When considering a petition for an area which was previously and unsuccessfully proposed for designation the regulatory authority shall determine if the new petition presents new allegations of facts. If the petition does not contain new allegations of facts, the regulatory authority shall not consider the petition and shall return the petition to the petitioner, with a statement of its findings and a reference to the text of the previous designation proceedings where the facts were considered.

(5) If the regulatory authority determines that the petition is incomplete or frivolous, it shall return the petition to the petitioner, with a written statement of the reasons for the determination and the categories of information needed to make the petition complete.

(6) The regulatory authority shall notify the person who submits a petition of any application for a permit received which proposes to include any area covered by the petition.

(7) Any petitions received after the close of the public comment period on a permit application relating to the same mine plan area shall not prevent the regulatory authority from issuing a decision on that permit application. The regulatory authority may return any petition received thereafter to the petitioner with a statement why the regulatory authority cannot consider the petition. For the purposes of this Section, close of the public comment period shall mean at the close of any informal conference held under 30 CFR 787.14, or, if no conference is requested, at the close of the period for filing written comments and objections under 30 CFR 786.12-13.

(b) (1) Within three weeks after the determination that a petition is complete, the regulatory authority shall circulate copies of the petition to, and request submittals of relevant information from, other interested governmental agencies, the petitioner, intervenors, persons with an ownership interest of record in the property, and other persons known to the regulatory authority to have an interest in the property.

(2) Within three weeks after the determination that a petition is complete, the regulatory authority shall notify the general public of the receipt of the petition and request submittals of relevant information by a newspaper advertisement placed once a week for two consecutive weeks in the locale of the area covered by the petition, in the newspaper of largest circulation in the State, and in any official State register of public notices.

(c) Until three days before the regulatory authority holds a hearing under Section 764.17, any person may intervene in the proceeding by filing allegations of facts, supporting evidence, a short statement identifying the petition to which the allegations pertain, and the intervenor's name, address and telephone number.

(d) Beginning immediately after a complete petition is filed, the regulatory authority shall compile and maintain a record consisting of all documents relating to the petition filed with or prepared by the regulatory authority. The regulatory authority shall make the record available for public inspection, free of charge, and copying, at reasonable cost, during all normal business hours at a central location of the county or multi-county area in which the land petitioned is located, and at the main office of the regulatory authority.

§764.17
Procedures: Hearing requirements.

(a) Within 10 months after receipt of a complete petition, the regulatory authority shall hold a public hearing in the locality of the area covered by the petition. If all petitioners and intervenors agree, the hearing need not be held. The hearing shall be legislative and fact-finding in nature, without cross examination of witnesses. The regulatory authority shall make a verbatim transcript of the hearing.

(b) (1) The regulatory authority shall give notice of the date, time and location of the hearing to:

(i) Local, State and Federal agencies which may have an interest in the decision on the petition;

(ii) The petitioner and the intervenors; and

(iii) Any person with an ownership or other interest known to the regulatory authority in the area covered by the petition.

(2) Notice of the hearing shall be sent certified mail and postmarked not less than 30 days before the scheduled date of the hearing.

(c) The regulatory authority shall notify the general public of the date, time, and location of the hearing by placing a newspaper advertisement once a week for two consecutive weeks in the locale of the area covered by the petition and once during the week prior to the scheduled date of the public hearing. The consecutive weekly advertisement must begin between 4 and 5 weeks before the scheduled date of the public hearing.

(d) The regulatory authority may consolidate in a single hearing the hearings required for each of several petitions which relate to areas in the same locale.

(e) Prior to designating any land areas as unsuitable for surface coal mining operations, the regulatory authority shall prepare a detailed statement, using existing and available information on the potential coal resources of the area, the demand for coal resources, and the impact of such designation on the environment, the economy and the supply of coal.

(f) In the event that all petitioners and intervenors stipulate agreement prior to the hearing, the petition may be withdrawn from consideration.

§764.19
Procedures: Decision.

(a) In reaching its decision, the regulatory authority shall use --

(1) The information contained in the data base and inventory system;

(2) Information provided by other governmental agencies;

(3) The detailed statement prepared under Section 764.17(e); and

(4) Any other relevant information submitted during the comment period.

(b) A final written decision shall be issued by the regulatory authority, including a statement of reasons, within 60 days of completion of the public hearing, or, if no public hearing is held, then within 12 months after receipt of the complete petition. The regulatory authority shall simultaneously send the decision by certified mail to the petitioner, every other party to the proceeding, and to the Regional Director for the region in which the State is located.

(c) The decision of the State regulatory authority with respect to a petition, or the failure of the regulatory authority to act within the time limits set forth in this Section, shall be subject to judicial review by a court of competent jurisdiction in accordance with State law under Section 526(e) of the Act.

§764.21
Data base and inventory system requirements.

(a) The regulatory authority shall develop a data base and inventory system which will permit evaluation of whether reclamation is feasible in areas covered by petitions.

(b) The regulatory authority shall include in the system information relevant to the criteria in 30 CFR 762.11, including, but not limited to, information received from the United States Fish and Wildlife Service, the State Historic Preservation Officer, and the agency administering Section 127 of the Clean Air Act, as amended (42 U.S.C. Section 7470).

(c) The regulatory authority shall add to the data base and inventory system information:

(1) On potential coal resources of the State, demand for those resources, the environment, the economy and the supply of coal, sufficient to enable the regulatory authority to prepare the statements required by Section 764.17(e); and,

(2) That becomes available from petitions, publications, experiments, permit applications, mining and reclamation operations and other sources.

§764.23
Public information.

The regulatory authority shall:

(a) Make the information and data base system developed under Section 764.21 available to the public for inspection free of charge and copying at reasonable cost;

(b) Provide information to the public on the petition procedures necessary to have an area designated as unsuitable for all or certain types of surface coal mining operations or to have designations terminated and describing how the inventory and data base system can be used.

§764.25
Regulatory authority responsibility for implementation.

(a) The regulatory authority shall not issue permits which are inconsistent with designations made pursuant to Parts 760, 761, 762, 764 or 765.

(b) The regulatory authority shall maintain a map of areas designated as unsuitable for all or certain types of surface coal mining operations.

(c) The regulatory authority shall make available to any person any information within its control regarding designations, except proprietary information on the chemical and physical properties of the coal (excepting information regarding such mineral or elemental content which is potentially toxic in the environment).

I86 PART 765 -- DESIGNATING LANDS UNSUITABLE FOR SURFACE COAL MINING OPERATIONS UNDER A FEDERAL PROGRAM FOR A STATE

Sec.	
765.1	Scope.
765.11	Procedures.
765.12	State variations.
765.13	Effective date.

Authority: Sections 102, 201, 501, 503, 504, 510, 512, 517, and 522, Pub. L. 95-87, 91 Stat. 448, 449, 468, 470, 471, 480, 483, 498, and 507 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1260, 1262, 1267 and 1272).

§765.1
Scope.

This Part establishes minimum procedures to be included in each Federal program for the designation of lands in a State as unsuitable for all or certain types of surface coal mining operations and for terminating designations.

§765.11
Procedures.

At the time a complete Federal program is promulgated for a State, or a partial Federal program covering the designation process is implemented the Director shall develop a process for designating lands unsuitable for all or certain types of surface coal mining operations and terminating designations consistent with the requirements of Parts 761, 762 and 764 of this Subchapter. The Director shall include in that process the procedures, data base, inventory system and public information requirements of Part 764.

§765.12
State variations.

When developing the procedures and criteria for designation of lands unsuitable for all or certain types of surface coal mining operations under a Federal program for a State, the Director shall consider:

(a) The nature of the State's terrain, climate, coal deposits, biological, chemical and other relevant physical characteristics;

(b) The structure and responsibilities of the State government and local governments within the State, including State and local land-use plans;

(c) Standards adopted by a State which are more stringent than the standards of the Act or the regulations under Parts 761, 762 and 764.

§765.13
Effective date.

(a) Except as provided in paragraph (b) of this Section, the Director shall implement the procedures and criteria of a Federal program for a State for designating lands unsuitable for all or certain types of surface coal mining one year after a Federal program is made effective for a State.

(b) When a Federal program is promulgated because of a State's failure to adequately implement, maintain or enforce the portion of the State program for designating lands unsuitable for all or certain types of coal mining, the designation procedure and criteria of a Federal program for the State shall be effective immediately upon implementation of the Federal program.

I86 PART 769 -- PETITION PROCESS FOR DESIGNATION OF FEDERAL LANDS AS UNSUITABLE FOR ALL OR CERTAIN TYPES OF SURFACE COAL MINING OPERATIONS AND FOR TERMINATION OF PREVIOUS DESIGNATIONS

Sec.	
769.1	Scope.

769.3 Authority.
769.4 Responsibility.
769.7 Regulatory Policy.
769.11 Who may submit a petition.
769.12 Procedures: Where to submit petitions.
769.13 Procedures: Contents of petitions.
769.14 Procedures: Initial processing, recording, and notification requirements.
769.15 Procedures: Intervention.
769.16 Procedures: Public information.
769.17 Procedures: Hearing requirements.
769.18 Procedures: Decisions on petitions.

Authority: Sections 102, 201, 510, 517, 522, and 523, Pub. L. 95-87, 91 Stat. 448, 449, 468, 480, 498, 507, 510 (30 U.S.C. 1202, 1211, 1260, 1267, 1272 and 1273).

§769.1
Scope.

This Part establishes minimum procedures and standards for designating Federal lands as unsuitable for all or certain types of surface coal mining operations and for terminating designations pursuant to petition.

§769.3
Authority.

Section 522(c) of the Act (30 U.S.C. 1272 (c)) authorizes the Secretary to establish a process for any person having an interest which is or may be adversely affected, to petition for the designation of Federal lands as unsuitable for all or certain types of surface coal mining operations or for the termination of those designations.

§769.4
Responsibility.

(a) The Regional Director for the region in which Federal land is subject to a petition for designation or termination of a designation shall receive, hold hearings on, act, and issue decisions on petitions under the criteria of 30 CFR 762. Prior to designation, the Regional Director shall consult with appropriate State and local agencies.

(b) The surface managing agency shall make recommendations for approval or disapproval of petitions based on present and future land use planning and management of public lands.

§769.7
Regulatory policy.

(a) The Regional Director shall maintain a map of areas designated as unsuitable for all or certain types of surface coal mining operations.

(b) Once an area of Federal lands is designated as unsuitable for all or certain types of surface coal mining operations, the authorized officer shall condition any permit or lease in a manner so as to limit or prohibit surface coal mining operations on the designated area.

(c) Review of applications for permits on Federal lands is subject to the provisions of 30 CFR 741 and 786.19(d)-(e).

§769.11
Who may submit a petition.

Any person having an interest which is or may be adversely affected by surface coal mining operations to be conducted on Federal lands may petition the Secretary to have an area designated as unsuitable for all or certain types of surface coal mining operations or to have an existing designation terminated. This right does not apply to areas of set aside from surface coal mining operations under laws other than the Act.

§769.12
Procedures:
Where to submit petitions.

Each petition to have an area of Federal lands designated as unsuitable or to terminate an existing designation shall be submitted to the Regional Director of the region in which the Federal lands are located.

§769.13
Procedures:
Contents of petitions.

(a) Designation. The only information that a petitioner need provide to designate lands is that required under CFR 764.13(b).

(b) Termination. The only information that a petitioner need provide to terminate a designation is that required by 30 CFR 764.13(c).

§769.14
Procedures: Initial processing, recordkeeping, and notificati
requirements.

(a) Within 30 days of receipt of a petition, the Regional Director shall notify the petitioner by certified mail whether or not the petition is complete under Section 769.13.

(b) If the Regional Director determines that the petition is incomplete or frivolous, he or she shall return the petition to the petitioner together with a written statement of the reasons for the determination and the categories of information needed to complete the petition.

(c) The Regional Director shall determine whether any identified coal deposits exist in the area covered by the petition, without requiring any showing from the petitioner. If the Regional Director finds that there are not any identified coal deposits in that area, he or she shall return the petition to the petitioner with a statement of the findings.

(d) The Regional Director may reject petitions for designations or terminations of designations which are frivolous. Once the requirements of Part 764.13 are met, no party shall bear any burden of proof, but each accepted petition shall be considered and acted upon by the Regional Director pursuant to Part 769 of these regulations.

(e) (1) Within two weeks after the determination that the petition is complete, the Regional Director shall send a copy of the petition to the authorized officer of the surface managing agency by certified mail for the officer's recommendation on the petition.

(2) The authorized officer shall recommend approval or disapproval of the petition within 30 days of its receipt, if the area covered by the petition has been included in a completed Federal lands review, or within nine (9) months, if the area has not been included in a Federal lands review.

(f) Within three weeks after the determination that a petition is complete, the Regional Director shall circulate copies of the petition to, and request submittals of relevant information from other interested governmental agencies, the petitioner, intervenors, any person with an ownership interest of record in the property, and other persons known to the Regional Director to have an interest in the property.

(g) (1) The Regional Director shall forward to the surface managing agency petitions in areas covered by existing land use plans in which surface coal mining operations were specifically considered, to determine whether:

(i) The petitioner has presented significant new evidence not previously considered in formulating or revising the land use plan, and

(ii) All of the criteria set forth in 30 CFR 762 were considered.

(2) Where no new significant evidence is presented and the criteria set forth in 30 CFR 762 were considered, the authorized officer of the surface managing agency may recommend that the Regional Director reject the petition, with a statement of its findings and a reference to the text of the land use plan where the evidence and criteria were considered.

(h) Where lands administered by the Department of the Interior and Agriculture are contiguous or intermingled or where one Department's resource management could affect resources or the other Department's land, the Regional Director shall refer a copy of the petition to the Department of Agriculture and shall consider that Department's recommendations about designating those lands unsuitable for all or certain types of surface coal mining, or terminating such designation.

(i) Any petitions received after the close of the public comment period on a permit application relating to the same mine plan area shall not prevent the Director from issuing a decision on a permit application. The Regional Director may return any petitions received thereafter to the petitioner with a statement why the Regional Director cannot consider the petition. For the purposes of this Section, close of the public comment period shall mean at the close of any informal conference held under 30 CFR 787.14 or if no conference is requested, at the close of the period for filing written comments and objections under 30 CFR 786.13 and 17.

§769.15
Procedures: Intervention.

Up to three days before the Regional Director holds a hearing on a petition under Section 769.17(a)(1), any person may intervene in the proceeding by filing allegations of facts, supporting evidence, a short statement identifying the petition to which the allegations pertain, and the intervenor's name, address and telephone number.

§769.16
Procedures: Public information.

(a) Within three weeks after determining that a petition is complete, the Regional Director shall notify the general public of the receipt of the petition and request submittals of relevant information by a newspaper advertisement placed once a week for two consecutive weeks in the locale of the area covered by the petition, in the newspaper of largest circulation in the State, in the Federal Register.

(b) Beginning immediately after a complete petition is filed, the Regional Director shall compile and maintain a record consisting of all documents relating to the petition and filed with or prepared by the Regional Director. The Regional Director shall make the record available for public inspection free of charge and for copying at a reasonable cost, during all normal business hours at a central location of the county or multi-county area where the land petitioned is located, and at the Regional Office.

§769.17
Procedures: Hearing requirements.

(a) Within 10 months after receipt of a complete petition, the Regional Director shall hold a public hearing within the locality of the area covered by the petition. If all petitioners and intervenors agree, a hearing need not be held. The hearing shall be legislative and fact-finding in nature, without cross-examination of witnesses. The Regional Director shall make a verbatim transcript of the hearing.

(b) (1) The Regional Director shall give notice of the date, time and location of the hearing to:

(i) The surface managing agency, local, State and Federal agencies which may have an interest in the decision on the petition;

(ii) The petitioner and the intervenors; and

(iii) Any person with an ownership or other interest known to the office in the area covered by the petition.

(2) Notice of the hearing shall be sent certified mail and postmarked not less than 30 days before the scheduled date of the hearing; and

(3) The Regional Director shall notify the general public of the date, time and location of the hearing by placing an advertisement once a week for two consecutive weeks in the locale of the area covered by the petition and once during the week prior to the scheduled date of the public hearing. The consecutive weekly advertisement must begin between 4 and 5 weeks prior to the scheduled date of the public hearing.

(c) The Regional Director may consolidate into a single hearing the hearings required for each of several petitions which relate to areas in the same locale.

(d) If any petition relates to an area of Federal lands which is the subject of a pending surface coal mining and reclamation operations permit application, the Regional Director may with consent of all petitioners and intervenors coordinate the hearing on the petition required under paragraph (a) of this Section with any informal conference held in accordance with Section 513(b) of the Act and 30 CFR 741.17. Nothing in this paragraph shall relieve an applicant for a permit from the burden of establishing that his or her application is in compliance with the requirements of the Federal lands programs.

(e) Prior to designating any land areas as unsuitable for surface coal mining operations, the Regional Director shall issue a detailed statement on the abundance of coal resources of the area, the demand for coal resources, and the impact of such designation on the environment, the economy and the supply of coal.

§769.18
Procedures: Decisions on petitions.

(a) In reaching his or her decision, the Regional Director shall use the information and recommendation of the Federal surface managing agency, information provided by other governmental agencies, the detailed statement issued under Section 769.17(f), and any other relevant information submitted during the comment period.

(b) A final written decision shall be issued by the Regional Director, including a statement of reasons, within 60 days of completion of the public hearing, or if no public hearing is held, then within 12 months after receipt of the complete petition. The Regional Director shall simultaneously send the decision and statement by certified mail to the petitioner, the Secretary, the surface managing agency, and to every other party to the proceeding.

(c) If the Regional Director concurs with the recommendation of the surface managing agency, the Regional Director's decision becomes final. If the Regional Director does not concur with the recommendation of the Federal surface managing agency, he or she shall notify the appropriate Regional or State Director of the surface managing agency within 30 days after the public hearing, if any. The decision will at the same time be referred to the Secretary through respective agency heads for resolution and issuance of a final decision within 60 days after the hearing, if any.

186 SUBCHAPTER G -- SURFACE COAL MINING AND RECLAMATION OPERATIONS PERMITS SYSTEM

186 PART 770 -- GENERAL REQUIREMENTS FOR PERMIT SYSTEMS UNDER STATE PROGRAMS

Sec.	
770.1	Scope.
770.2	Objectives.
770.4	Responsibilities.
770.5	Definitions.
770.6	Organization.
770.11	Applicability.
770.12	Coordination with requirements under other laws.

Authority : Sections 102, 201, 501, 503, 504, 506, 507, 508, 510, 512 and 522 Pub. L. 95-87, 91 Stat. 445 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1256, 1257, 1258, 1260, 1262 and 1272).

§770.1
Scope.

This Subchapter provides the minimum requirements for the Secretary's approval of the permit system components of regulatory programs for surface coal mining and reclamation operations. These include --

(a) Requirements for obtaining permits;

(b) The timing, development and filing of permit applications;

(c) Regulatory authority review of applications and approval or denial of permits;

(d) Administrative review of regulatory authority decisions on permits;

(e) The terms and conditions of permits;

(f) Public participation in the permit process;

(g) The renewal and revision of permits;

(h) Requirements for permits for special categories of surface coal mining and reclamation operations; and

(i) Procedures for coal exploration operations under regulatory programs.

§770.2
Objectives.

The objectives of this Subchapter are to ensure that surface coal mining and reclamation operations are conducted only after the regulatory authority has first determined that reclamation is feasible and that all approved coal explorations and permitted surface coal mining and reclamation operations are conducted so as to fully protect the environment.

§770.4
Responsibilities.

(a) Persons seeking to engage in surface coal mining and reclamation operations must submit an application for and obtain a permit for those operations in accordance with this Subchapter. Persons seeking to conduct coal exploration which substantially distrubs the natural land surface must first file the notice of intention or obtain approval of the regulatory authority as required under 30 CFR 776.

(b) The regulatory authority shall review each application for exploration approval and for a permit, approve or disapprove each permit application or exploration approval and issue, condition, suspend, or revoke exploration approval permits, renewals, or revised permits under an approved regulatory program.

§770.5
Definitions.

As used throughout this Subchapter, except where otherwise indicated:

Applicant means a person who seeks to obtain exploration approval or a permit under this Subchapter G and the regulatory program.

Application means the documents and other information filed with the regulatory authority under this Subchapter and the regulatory program for the issuance of exploration approval or a permit.

Complete application means an application for exploration approval or permit, which contains all information required under the Act, this Subchapter, and the regulatory program.

General area means, with respect to hydrology, the area surrounding a proposed permit area and included within the boundaries of the unit of the Department's Office of Water Data Coordination Catalog which contains the proposed permit area. Permit areas sites which lie in more than one catalog unit or which may affect more than one catalog unit may have an area larger than one catalog unit, specified by the regulatory authority.

Principal shareholder means any person who is the record or beneficial owner of 10 percent or more of any class of voting stock.

Property to be mined means both the surface and mineral estates on and underneath lands which are within the permit area.

Violation notice means any written notification from a governmental entity of a violation of law, whether by letter, memorandum, legal or administrative pleading, or other written communication.

§770.6
Organization.

This Subchapter is organized according to separate parts, as follows:

(a) Parts 770 and 771 establish introductory, definitional, and other general provisions applicable for all Parts of this Subchapter.

(b) Part 776 establishes procedures regarding coal exploration.

(c) Parts 778, 779, and 780 establish specific requirements for permit application contents for surface coal mining activities.

(d) Parts 782, 783, and 784 establish specific requirements for permit application contents for underground coal mining activities.

(e) Part 785 establishes requirements for permits for certain special categories of surface coal mining and reclamation operations.

(f) Part 786 establishes requirements for the review, issuance, or denial of permits, and for public participation in that process.

(g) Part 787 establishes requirements for administrative and judicial review of final regulatory authority decisions on permits and applications for exploration approval and permits.

(h) Part 788 establishes requirements for the review, revision, and renewal of permits, and for the transfer, sale or assignment of rights granted under permits.

(i) Part 795 establishes requirements for providing assistance to small operators and qualifying laboratories to perform necessary hydrologic consequences determinations and boring or core sampling analyses for those operators.

§770.11
Applicability.

(a) This Subchapter applies to each person who applies for a permit for surface coal mining and reclamation operations or conducts surface coal mining and reclamation operations pursuant to a permit under regulatory programs and to persons who seek to conduct coal exploration which substantially disturbs the natural land surface under regulating programs.

(b) This Subchapter applies to each regulatory authority under a regulatory program and, where specifically provided, to the Director.

§770.12
Coordination with requirements under other laws.

Each regulatory program shall, to avoid duplication, provide for the coordination of review and issuance of permits for surface coal mining and reclamation operations with:

(a) Any other Federal or State permit process applicable to those operations including, at a minimum, permits required under the:

(1) Clean Water Act, as amended (33 U.S.C. Sec. 1251 et seq.);

(2) Clean Air Act, as amended (42 U.S.C. Sec. 7401 et seq.);

(3) Resource Conservation and Recovery Act (42 U.S.C. Sec. 3251 et. seq.); and

(b) The requirements of any water quality management plans which have been approved by the Administrator of the United States Environmental Protection Agency under Sections 208 or 303(c), (e) of the Clean Water Act, as amended, (33 U.S.C. Sections 1288, 1313(c), (e)).

(c) The applicable requirements of the Endangered Species Act of 1973, as amended, (16 U.S.C. Sec. 1531 et seq.); the Fish & Wildlife Coordination Act, as amended, (16 U.S.C. Sec. 661 et seq.); The National Historic Preservation Act of 1966, as amended (16 U.S.C. Sec. 470 et seq.); Executive Order 11593; and for Federal programs only, the Archeological and Historic Preservation Act of 1974 (16 U.S.C. Sec. 469 et seq.).

PART 771 -- GENERAL REQUIREMENTS FOR PERMITS AND PERMIT APPLIC

Sec.
771.1 Scope.
771.2 Objectives.
771.11 General requirements for permits -- Operators.
771.13 Continued operation under interim permits.
771.15 Continued operation under Federal program permits.
771.17 Continued operation under State program permits.
771.19 Compliance with permits.
771.21 Permit application filing deadlines.
771.23 Permit applications -- General requirements for format and contents.
771.25 Permit fees.
771.27 Verification of application.

Authority : Sections 102, 201, 501, 502, 503, 504, 505, 506, 507, 508, 510, 511, 515 and 516, Pub. L. 95-87, 91 Stat. 445 (30 U.S.C. Sections 1202, 1211, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 1260, 1261, 1265 and 1266).

§771.1
Scope.

This Part establishes minimum general criteria for permits and permit applications requirements which are applicable to obtaining the Secretary's approval of regulatory programs.

§771.2
Objectives.

The objectives of this Part are to insure that all surface coal mining and reclamation operations are conducted only under permits issued in accordance with the requirements of the regulatory program, that all persons make timely application for permits, to provide general requirements on permit fee systems, and to provide the general contents requirements of permit applications.

§771.11
General requirements for permits -- Operators.

Except as provided for in Section 771.13, on and after 8 months from the date on which a regulatory program is approved by the Secretary, no person shall engage in or carry out surface coal mining and reclamation operations on non-Federal or non-Indian lands within a State, unless that person has first obtained a valid permit issued by the regulatory authority under an approved regulatory program.

§771.13
Continued operation under interim permits.

(a) Following the final disapproval of a State program under 30 CFR 732, including judicial review of the disapproval, and prior to the promulgation of a complete Federal program for a State under 30 CFR 736.11(a), existing surface coal mining and reclamation operations may continue pursuant to the provisions of Section 502 of the Act and 30 CFR 710, 715, 716, 717, 720, 721, 722, and 723. During this period, no new permits for surface coal mining and reclamation operations shall be issued by the State whose program has been disapproved. Permits which lapse during this period may continue in full force and effect within the specified permit area, until promulgation of a Federal program for the State whose program has been disapproved.

(b) A person conducting surface coal mining operations, under a permit issued or amended by the regulatory authority in accordance with the requirements of section 502 of the Act, may conduct these operations beyond the period prescribed in Section 771.11, if:

(1) Timely and complete application for a permit under the permanent regulatory program has been made to the regulatory authority in accordance with the provisions of the Act, this Subchapter, and the regulatory program;

(2) The regulatory authority has not yet rendered an initial decision with respect to such application; and

(3) The operations are conducted in compliance with all terms and conditions of the interim permit, the requirements of the Act, 30 CFR 710, 715, 716, and 717 of this Chapter, and the State statutes and regulations.

§771.15
Continued operation under Federal program permits.

A permit issued by the Regional Director pursuant to a Federal program for a State shall be valid under any superceding State program approved by the Secretary.

(a) The Federal permittee shall have the right to apply to the State regulatory authority for a State permit to supersede the Federal permit;

(b) The regulatory authority may review a permit issued pursuant to the superceded Federal program, to determine that the requirements of the Act and the approved State program are not violated by the Federal permit.

(c) To the extent that the approved State program contains additional requirements not contained in the Federal program for the State, the State regulatory authority shall--

(1) Promptly issue an order requiring the permittee to comply with such additional requirements within 60 days of the issuance of the order, unless the permittee demonstrates to the State regulatory authority that it is physically impossible to meet those additional requirements within 60 days, or unless the State regulatory authority agrees to a longer period under an established time schedule; and

(2) Notify the permittee in writing of the right to a hearing with respect to the order, in the manner and time provided for in the State program.

771.17 Continued operation under State program permits.

Permits issued pursuant to a previously approved State program shall be valid but reviewable under a Federal program. Immediately following promulgation of a Federal program, the Director shall review these permits to determine that the requirements of the Act this Chapter, and the Federal program are not violated. If the Director determines that any permit was granted contrary to the requirements of this Act, he shall--

(a) Inform the permittee,

(b) Provide the permittee an opportunity for a hearing,

(c) Provide the permittee a reasonable opportunity to submit that portion of the permit application which the Director determines to be relevant, and

(d) Provide the permittee a reasonable time to conform ongoing surface mining and reclamation operations to the requirements of the Federal program, as prescribed in the Federal program for the State.

§771.19
Compliance with permits.

All persons shall conduct surface coal mining and reclamation operations under permits issued pursuant to this Subchapter and a regulatory program and shall comply with the terms and conditions of the permit and the requirements of the Act, this Chapter and the regulatory program.

§771.21
Permit application filing deadlines.

(a) Initial implementation of permanent regulatory programs.

(1) Not later than 2 months following the initial approval by the Secretary of a regulatory program under Subchapter C of this Chapter, regardless of litigation contesting that approval, each person who conducts or expects to conduct surface coal mining and reclamation operations after the expiration of 8 months from that approval shall file an application for a permit for those operations.

(2) Applications for those operations which are not filed within the time required by paragraph (a) (1) of this Section shall be deemed applications filed under paragraph (b) (1) of this Section.

(b) Filing deadlines after initial implementation of permanent regulatory programs.

(1) General. Each person who conducts or expects to conduct new surface coal mining and reclamation operations shall file a complete application for a permit for those operations within a time established by the regulatory authority as sufficient to allow for review of the application.

(2) Renewal of valid permits. An application for renewal of a permit shall be filed with the regulatory authority at least 120 days before the expiration of the permit involved.

(3) Revisions of permits. Any application for revision of a permit shall be filed with the regulatory authority before the date on which the permittee expects to revise surface coal mining or reclamation operations. The regulatory authority shall determine the time by which that application shall be filed, based on the time required for review of the application and public participation in the process of review.

(4) Succession to Rights Granted Under Prior Permits. Any application for a new permit required for a person succeeding by transfer, sale, or assignment of rights granted under a permit shall be filed with the regulatory authority not later than 30 days after that succession is approved by the regulatory authority.

§771.23
Permit applications-- General requirements for format and contents.

(a) Applications for permits to conduct surface coal mining and reclamation operations shall be filed in the format required by the regulatory authority. The application shall be complete and include, at a minimum, for surface mining activities all the applicable information required under 30 CFR 778, 779, and 780, for underground mining activities all the information required under 30 CFR 782, 783 and 784 and for special types of mines all the information requried under 30 CFR 785.

(b) Information set forth in the application shall be current, presented clearly and concisely, and supported by appropriate references to technical and other written material available to the regulatory authority.

(c) All technical data submitted in the application shall be accompanied by--

(1) Names of persons or organizations which collected and analyzed such data;

(2) Dates of the collection and analyses; and

(3) Descriptions of methodology used to collect and analyze the data.

(d) The application shall state the name, address and position of officials of each private or academic research organization or governmental agency consulted by the applicant in preparation of the application for information on land uses, soils, geology, vegetation, fish and wildlife, water quantity and quality, air quality, archelogical, cultural, and historic features.

(e) Maps and plans--General requirements.

(1) Maps submitted with applications shall be presented in a consolidated format, to the extent possible, and shall include all the types of information that are set forth on topographic maps of the U.S. Geological Survey of the 1:24,000 scale series. Maps of the permit area shall be at a scale of 1:6,000 or larger. Maps of the remainder of the mine plan area and the adjacent areas shall clearly show the lands and waters within those areas and be in a scale determined by the regulatory authority, but in no event smaller than 1:24,000.

(2) All maps and plans submitted with the application shall distinguish among each of the phases during which surface coal mining operations were or will be conducted at any place within the mine plan area. At a minimum, distinctions shall be clearly shown among those portions of the mine plan area in which surface coal mining operations occurred--

(i) Prior to August 3, 1977;

(ii) After August 3, 1977, and prior to either--

(A) May 3, 1978; or

(B) In the case of an applicant or operator which obtained a small operator's exemption in accordance with 30 CFR 710.12, January 1, 1979;

(iii) After May 3, 1978 (or January 1, 1979, for persons who received a small operator's exemption) and prior to the approval of the applicable regulatory program;

(iv) After the estimated date of a permit by the regulatory authority.

§771.25
Permit fees.

Each application for a surface coal mining and reclamation permit pursuant to an approved State program or a Federal program shall be accompanied by a fee determined by the regulatory authority. Such fee may be less than, but shall not exceed, the actual or anticipated cost of reviewing, administering and enforcing the permit issued pursuant to a State or Federal program. The regulatory authority may develop procedures to allow the fee to be paid over the term of the permit.

§771.27

Verification of application.

Applications for permits shall be verified under oath, by a responsible official of the applicant, that the information contained in the application is true and correct to the best of the official's information and belief.

PART 776-- GENERAL REQUIREMENTS FOR COAL EXPLORATION

Sec.
776.1 Scope.
776.2 Objectives.
776.3 Responsibilities.
776.11 General requirements: Exploration of less than 250 tons.
776.12 General requirements: Exploration of more than 250 tons.
776.13 Applications: Approval or disapproval of exploration more than 250 tons.
776.14 Applications: Notice and hearing for exploration of m than 250 tons.
776.15 Coal exploration compliance duties.
776.17 Public availability of information.

Authority: Sections 102, 201, 501, 503, 504, 512, 515, 516, 517, 518, and 521, Pub. L. 95-87, 91 Stat. 445 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1262, 1265, 1266, 1267, 1268 and 1271).

§776.1
Scope.

This Part establishes the minimum requirements for the Secretary's approval of regulatory program coal exploration procedures. This Part applies to the regulatory authority and to any person who conducts or seeks to conduct coal exploration outside of the permit area.

§776.2
Objectives.

The objectives of this Part are to ensure that coal exploration is conducted in a manner which protects the environment and otherwise meets the requirements of the Act, this Chapter, and the regulatory program.

§776.3
Responsibilities.

(a) It is the responsibility of any person conducting or seeking to conduct coal exploration under a regulatory program to comply with the requirements of this Part.

(b) It is the responsibility of the regulatory authority to receive notices of intention to explore and applications for approval of exploration, approve or disapprove the applications, and to issue, condition, suspend, revoke, and enforce approvals under an approved regulatory program.

§776.11
General requirements: Exploration of less than 250 tons.

(a) Any person who intends to conduct coal exploration during which less than 250 tons of coal will be removed in the area to be explored shall, prior to conducting the exploration, file with the regulatory authority a written notice of intention to explore.

(b) The notice shall include--

(1) The name, address, and telephone number of the person seeking to explore.

(2) The name, address, and telephone number of the representative who will be present at and responsible for conducting the exploration activities.

(3) A precise description and map, at a scale of 1:24,000 or larger, of the exploration area;

(4) A statement of the period of intended exploration;

(5) If the surface is owned by a person other than the person who intends to explore, a description of the basis upon which the applicant claims the right to enter such area for the purpose of conducting exploration and reclamation; and

(6) A description of the practices proposed to be followed to protect the environment from adverse impacts as a result of the exploration activities.

(c) Any person who conducts coal exploration activities pursuant to this Section which substantially disturb the natural land surface shall comply with 30 CFR Part 815.

(d) The regulatory authority shall, except as otherwise provided in Section 776.17, place such notices on public file and make them available for public inspection and copying.

§776.12
General requirements: Exploration of more than 250 tons.

Any person who intends to conduct coal exploration in which more than 250 tons of coal are removed in the area to be explored, shall, prior to conducting the exploration, obtain the written approval of the regulatory authority, in accordance with the following:

(a) Contents of application for approval. Each application for approval shall contain, at a minimum, the following information--

(1) The name, address and telephone number of the applicant;

(2) The name, address and telephone number of the representative of the applicant who will be present at and be responsible for conducting the exploration;

(3) An exploration and reclamation operations plan, including--

(i) A narrative description of the proposed exploration area, cross-referenced to the map required under paragraph (a)(5) of this Section, including surface topography; geological, surface water, and other physical features; vegetative cover; the distribution and important habitats of fish, wildlife, and plants, including, but not limited to, any endangered or threatened species listed pursuant to the Endangered Species Act of 1973 (16 U.S.C. Sec. 1531 et seq.); districts, sites, buildings, structures or objects listed on or eligible for listing on the National Register of Historic Places; and known archealogical resources located within the proposed exploration area;

(ii) A narrative description of the methods to be used to conduct coal exploration and reclamation, including, but not limited to, the types and uses of equipment, drilling, blasting, road or other access route construction, and excavated earth and other debris disposal activities;

(iii) An estimated timetable for conducting and completing each phase of the exploration and reclamation;

(iv) The estimated amounts of coal to be removed and a description of the methods to be used to determine those amounts;

(v) A description of the measures to be used to comply with the applicable requirements of 30 CFR 815;

(4) The name and address of the owner of record of the surface land and of the subsurface mineral estate of the area to be explored;

(5) A map in a scale of 1:24,000 or larger, showing the areas of land to be substantially disturbed by the proposed exploration and reclamation. The map shall specifically show existing roads, occupied dwellings, and pipelines; proposed location of trenches, roads, and other access routes and structures to be constructed; the location of land excavations to be conducted; water or coal exploratory holes and wells to be drilled or altered; earth or debris disposal areas; existing bodies of surface water; historic, topographic, cultural and drainage features; and habitats of any endangered or threatened species listed pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq); and

(6) If the surface is owned by a person other than the applicant, a description of the basis upon which the applicant claims the right to enter that land for the purpose of conducting exploration and reclamation.

(b) Public notice and opportunity to comment. Public notice of the application and opportunity to comment shall be provided as follows:

(1) Within such time as the regulatory authority may designate, public notice of the filing of the application with the regulatory authority shall be posted by the applicant at the courthouse or other public office designated by the regulatory authority in the vicinity of the proposed exploration area;

(2) The public notice shall state the name and business address of the person seeking approval, the date of filing of the application, the address of the regulatory authority at which written comments on the application may be submitted,

the closing date of the comment period, and a description of the general area of exploration;

(3) Any person with an interest which is or may be adversely affected shall have the right to file written comments on the application within reasonable time limits.

§776.13

Applications: Approval or disapproval of exploration of more than 250 tons.

(a) The regulatory authority shall act upon a completed application for approval within a reasonable period of time.

(b) The regulatory authority shall approve a complete application filed in accordance with this Part, if it finds, in writing, that the applicant has demonstrated that the exploration and reclamation described in the application--

(1) Will be conducted in accordance with the Act, 30 CFR 815, this Part and the regulatory program;

(2) Will not jeopardize the continued existence of an endangered or threatened species listed pursuant to Section 4 of the Endangered Species Act of 1973 (16 U.S.C. 1531) or result in the destruction or adverse modification of critical habitat of those species, and

(3) Will not adversely affect any cultural resources or districts, sites, buildings, structures, or objects listed or eligible for listing on the National Register of Historic Places, unless the proposed exploration has been approved by both the regulatory authority and the agency with jurisdiction over such matters.

(c) Terms of approval. Each approval issued by the regulatory authority shall contain conditions necessary to ensure that the exploration and reclamation will be conducted in compliance with the Act, this Part 30 CFR 815, and the regulatory program.

§776.14
Applications: Notice and hearing for exploration of more than 250 tons.

(a) The regulatory authority shall notify the applicant and the appropriate local government officials, in writing, of its decision to approve or disapprove the application. If the application is disapproved, the notice to the applicant shall include a statement of the reason for disapproval. The regulatory authority shall provide public notice of approval or disapproval of each application, by publication in a newspaper of general circulation in the general vicinity of the proposed operations.

(b) Any person with interests which are or may be adversely affected by a decision of the regulatory authority pursuant to paragraph (a) above, shall have the opportunities for administrative and judicial review as set forth in 30 CFR 787.

§776.15

Coal exploration compliance duties.

(a) All coal exploration and reclamation which substantially disturbs the natural land surface or which remove more than 250 tons of coal shall be conducted in accordance with the coal exploration requirements of the Act, this Part, 30 CFR 815, and the regulatory program, and any conditions on approval for exploration and reclamation imposed by the regulatory authority.

(b) Any person who conducts any coal exploration in violation of Section 512 of the Act, the provision of this Part, 30 CFR 815, or the regulatory program shall be subject to the provisions of Section 518 of the Act, Subchapter L of this Chapter, and the applicable inspection and enforcement provisions of the regulatory program.

§776.17
Public availability of information.

(a) Except as provided in paragraph (b) of this Section, all information submitted to the regulatory authority under this Part shall be made available for public inspection and copying at the local offices of the regulatory authority closest to the exploration area.

(b) (1) The regulatory authority shall not make information available for public inspection, if the person submitting it requests in writing, at the time of submission, that it not be disclosed and the regulatory authority determines that the information is confidential.

(2) The regulatory authority shall determine that information is confidential only if it concerns trade secrets or is privileged commercial or financial information which relates to the competitive rights of the person intending to conduct coal exploration.

(3) Information requested to be held as confidential under this Section shall not be made publicly available until after notice and opportunity to be heard is afforded persons seeking and opposing disclosure of the information.

I86 PART 778-- SURFACE MINING PERMIT APPLICATIONS-- MINIMUM REQUIREMENTS FOR LEGAL, FINANCIAL, COMPLIANCE, AND RELATED INFORMATION

Sec.

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778.21 Newspaper advertisement and proof of publication.

Authority : Secs. 102, 201, 501, 503, 504, 506, 507, 508, 510, 515, 517, and 522, Pub. L. 95-87, 91 Stat. 945 (30 USC 1202, 1211, 1251, 1253, 1254, 1256, 1257, 1258, 1260, 1265, 1267 and 1272).

§778.1
Scope.

This Part establishes the minimum requirements for the Secretary's approval of regulatory program provisions regarding the legal, financial, compliance and general information that must be contained in permit applications for surface mining activities.

§778.2
Objectives.

The objective of this Part is to ensure that all relevant information on the ownership and control of persons who conduct surface mining activities, the ownership and control of the property to be affected by the operations, the compliance status and history of those persons, and other important information is provided in the application to the regulatory authority.

§778.4
Responsibility.

It is the responsibility of the permit applicant to provide to the regulatory authority all of the information required by this Part.

§778.11
Applicability.

This Part applies to any person who applies for a permit to conduct surface mining activities.

§778.13
Identification of interests.

(a) Each application shall contain the names and addresses of--

(1) The permit applicant, including his or her telephone number;

(2) Every legal or equitable owner of record of the property to be mined;

(3) The holders of record of any leasehold interest in the property to be mined;

(4) Any purchaser of record under a real estate contract of the property to be mined;

(5) The operator, if the operator is a person different from the applicant, including his or her telephone number; and

(6) The resident agent of the applicant who will accept service of process, including his or her telephone number.

(b) Each application shall contain a statement of whether the applicant is a corporation, partnership, single proprietorship, association or other business entity. For businesses other than single proprietorships, the application shall contain the following information, where applicable:

(1) Names and addresses of every officer, partner, director or other person performing a function similar to a director of the applicant;

(2) Name and address of any person who is a principal shareholder of the applicant; and

(3) Names under which the applicant, partner, or principal shareholder previously operated a surface coal mining operation in the United States within the 5 years preceding the date of application.

(c) If any owner, holder, purchaser, or operator, identified under paragraph (a) of this Section, is a business entity other than a single proprietor, the application shall contain the names and addresses of their respective principals, officers, and resident agents.

(d) Each application shall contain a statement of any current or previous coal mining permits in the United States held by the applicant subsequent to 1970 and by any person identified in paragraph (b)(3) of this Section, and of any pending permit application to conduct surface coal mining and reclamation operations in the United States. The information shall be listed by permit or application number and identify the regulatory authority for each of those coal mining operations.

(e) Each application shall contain the names and addresses of the owners of record of all surface and subsurface areas contiguous to any part of the proposed permit area.

(f) Each application shall contain the name of the proposed mine and the Mine Safety and Health Administration identification number for the mine and all sections, if any.

(g) Each application shall contain a statement of all lands, interests in lands, options, or pending bids on interests held or made by the applicant for lands which are contiguous to the area to be covered by the permit.

§778.14
Compliance information.

Each application shall contain--

(a) A statement of whether the applicant, any subsidiary, affiliate, or persons controlled by or under common control with the applicant has--

(1) Had a Federal or State mining permit suspended or revoked in the last 5 years; or,

(2) Forfeited a mining bond or similar security deposited in lieu of bond.

(b) If any such suspension, revocation or forfeiture has occurred, a statement of the facts involved, including--

(1) Identification number and date of issuance of the permit or date and amount of bond or similar security;

(2) Identification of the authority that suspended or revoked a permit or forfeited a bond and the stated reasons for that action;

(3) The current status of the permit, bond or similar security involved;

(4) The date, location, and type of any administrative or judicial proceedings initiated concerning the suspension, revocation, or forfeiture; and

(5) The current status of these proceedings.

(c) A listing of each violation notice received by the applicant in connection with any surface coal mining operation during the 3-year period before the application date, for violations of any law, rule or regulation of the United States or of any State law, rule or regulation enacted pursuant to Federal law, rules or regulation, or of any provision of the Act pertaining to air or water environmental protection. The application shall also contain a statement regarding each violation notice, including--

(1) The date of issuance and identity of the issuing regulatory authority, department, or agency;

(2) A brief description of the particular violation alleged in the notice;

(3) The date, location and type of any administrative or judicial proceedings initiated concerning the violation, including, but not limited to, proceedings initiated by the applicant to obtain administrative or judicial review of the violations;

(4) The current status of the proceedings and of the violation notice; and

(5) The actions, if any, taken by the applicant to abate the violation.

§778.15
Right of entry and operation information.

(a) Each application shall contain a description of the documents upon which the applicant bases his or her legal right to enter and begin surface mining activities in the permit area and whether that right is the subject of pending litigation. The description shall identify those documents by type and date of execution, identify the specific lands to which the document pertains, and explain the legal rights claimed by the applicant.

(b) Where the private mineral estate to be mined has been severed from the private surface estate, the application shall also provide for lands within the permit area--

(1) A copy of the written consent of the surface owner to the extraction of coal by surface mining methods; or

(2) A copy of the document of conveyance that expressly grants or reserves the right to extract the coal by surface mining methods; or

(3) If the conveyance does not expressly grant the right to extract the coal by surface mining methods, documentation that under the applicable State law, the applicant has the legal authority to extract the coal by those methods.

(c) Nothing in this Section shall be construed to afford the regulatory authority the authority to adjudicate property title disputes.

§778.16
Relationship to areas designated unsuitable for mining.

(a) Each application shall contain a statement of available information on whether the proposed permit area is within an area designated unsuitable for surface mining activities under 30 CFR 764 and 765 or under study for designation in an administrative proceeding under those Parts.

(b) If an applicant claims the exemption in 30 CFR 786.19(d)(2), the applicant shall contain information supporting the applicant's assertion that it made substantial legal and financial commitments before January 4, 1977, concerning the proposed surface mining activities.

(c) If an applicant purposes to conduct surface mining activities within 300 feet of an occupied dwelling, the application shall contain the waiver of the owner of the dwelling as required in 30 CFR 761.12(e).

§778.17
Permit term information.

(a) Each application shall state the anticipated or actual starting and termination date of each phase of the surface mining activities and the anticipated number of acres of land to be affected for each phase of mining and over the total life of the permit.

(b) If the applicant proposes to conduct the surface mining activities in excess of 5 years, the application shall contain the information needed for the showing required under 30 CFR 786.25(a).

§778.18
Personal injury and property damage insurance information.

Each permit application shall contain either a certificate of liability insurance or evidence that the self-insurance requirements in 30 CFR 806.14 are satisfied.

§778.19
Identification of other licenses and permits.

Each application shall contain a list of all other licenses and permits needed by the applicant to conduct the proposed surface mining activities. This list shall identify each license and permit by--

(a) Type of permit or license;

(b) Name and address of issuing authority;

(c) Identification numbers of applications for those permits or licenses or, if issued, the identification numbers of the permits or licenses; and

(d) If a decision has been made, the date of approval or disapproval by each issuing authority.

§778.20
Identification of location of public office for filing of application.

Each application shall identify, by name and address, the public office where the applicant will simultaneously file a copy of the application for public inspection under 30 CFR 786.11(d).

§778.21
Newspaper advertisement and proof of publication.

A copy of the newspaper advertisement of the application and proof of publication of the advertisement shall be filed with the regulatory authority and made a part of the complete application, not later than 4 weeks after the last date of publication required under 30 CFR 786.11(a).

I86 PART 779-- SURFACE MINING PERMIT APPLICATIONS-- MINIMUM REQUIREMENTS FOR INFORMATION ON ENVIRONMENTAL RESOURCES

Sec.
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779.27 Prime farmland investigation.

Authority : Secs. 102, 201, 501, 503, 504, 506, 507, 508, 510, 515, and 522, Pub. L. 95-87, 91 Stat. 445 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1256, 1257, 1258, 1260, 1265, and 1272).

§779.1
Scope.

This Part establishes the minimum requirements for the Secretary's approval of regulatory program provisions for the environmental resources contents of applications for surface mining activities.

§779.2
Objectives.

The objectives of this Part are to ensure that each application provides to the regulatory authority a complete and accurate description of the environmental resources that may be impacted or affected by proposed surface mining activities.

§779.4
Responsibilities.

(a) It is the responsibility of the applicant to provide, except where specifically exempted in this Part, all information required by this Part in the application.

(b) It is the responsibility of State and Federal Government agencies to provide information for applications as specifically required by this Part.

§779.11
General requirements.

Each permit application shall include a description of the existing, premining environmental resources within the proposed mine plan area and adjacent areas that may be affected by the proposed surface mining activities.

§779.12
General environmental resources information.

Each application shall describe and identify--
(a) The size, sequence, and timing of the sub-areas of the mine plan area for which it is anticipated that individual permits for mining will be requested over the estimated total life of the proposed surface mining activities; and

(b) The nature of cultural and historic resources listed or eligible for listing on the National Register of Historic Places and known archeological features within the proposed mine plan and adjacent areas. The description shall be based on all available information, including, but not limited to, data of State and local archeological, historical, and cultural preservation agencies.

§779.13
Description of hydrology and geology: General requirements.

(a) Each application shall contain a description of the geology, hydrology, and water quality and quantity of all lands within the proposed mine plan area, the adjacent area, and the general area. The description shall include information on the characteristics of all surface and ground waters within the general area, and any water which will flow into or receive discharges of water from the general area. The description shall be prepared according to Sections 779.13-779.17 and conform to the following:

(b) (1) Information on hydrology, water quality and quantity and geology related to hydrology of areas outside the proposed mine plan area and within the general area shall be provided by the regulatory authority, to the extent that this data is available from an appropriate Federal or State agency.

(2) If this information is not available from those agencies, the applicant may gather and submit this information to the regulatory authority as part of the permit application.

(3) The permit shall not be approved by the regulatory authority until this information is made available in the application.

(c) The use of modeling techniques may be included as part of the permit application, but the same surface and ground water information may be required for each site as when models are not used.

§779.14
Geology description.

(a) The description shall include a general statement of the geology within the proposed mine plan area down to and including the first aquifer affected below the lowest coal seam to be mined.

(b) (1) Test borings or core samples from the proposed permit area shall be collected and analyzed down to and including the stratum immediately below the lowest coal seam to be mined to provide the following data in the description:
(i) Location of subsurface water, if encountered;
(ii) Logs of drill holes showing the lithologic characteristics and thickness of each stratum and each coal seam;
(iii) Physical properties of each stratum within the overburden including compaction and erodibility;
(iv) Chemical analyses of each stratum within the overburden and the stratum immediately below the lowest coal seam to be mined to identify at a minimum, those horizons which contain, potential acid-forming, toxic-forming, or alkalinity producing materials; and
(v) Analyses of the coal seam, including, but not limited to, an analysis of the sulfur, pyrite, and marcasite content.

(2) If required by the regulatory authoirty, test borings or core samplings shall be collected and analyzed to greater depths within the proposed permit area, or for areas outside the proposed permit area, to provide for evaluation of the impact of the proposed activities on the hydrologic balance.

(3) An applicant may request that the requirement for a statement of the results of the test borings or core samplings be waived by the regulatory authority. The waiver may be granted only if the regulatory authority makes a written determination that the statement is unnecessary because other equivalent information is accessible to it in a satisfactory form.

§779.15
Ground water information.

(a) The application shall contain a description of the ground water hydrology for the proposed mine plan and adjacent area, including, at a minimum--

(1) The depth below the surface and the horizontal extent of the water table and aquifers;

(2) The lithology and thickness of the aquifers;

(3) Known uses of the water in the aquifers and water table; and

(4) The quality of subsurface water, if encountered.

(b) The application shall contain additional information which describes the recharge, storage, and discharge characteristics of aquifers and the quality and quantity of ground water, according to the parameters and in the detail required by the regulatory authority.

§779.16
Surface water information.

(a) Surface water information shall be described, including the name of the watershed which will receive water discharges, the location of all surface water bodies such as streams, lakes, ponds, and springs, the location of any water discharge into any surface body of water, and descriptions of surface drainage systems sufficient to identify, in detail, the seasonal variations in water quantity and quality within the proposed mine plan and adjacent areas.

(b) Surface water information shall include--

(1) Minimum, maximum, and average discharge conditions which identify critical low flow and peak discharge rates of streams sufficient to identify seasonal variations; and

(2) Water quality data to identify the characteristics of surface waters in, discharging into, or which will receive flows from surface or ground water from affected areas within the proposed mine plan area, sufficient to identify seasonal variations, showing--

(i) Total dissolved solids in milligrams per liter;

(ii) Total suspended solids in milligrams per liter;

(iii) Acidity;

(iv) pH in standard units;

(v) Total and dissolved iron in milligrams per liter;

(vi) Total manganese in milligrams per liter; and

(vii) Such other information as the regulatory authority determines is relevant.

§779.17
Alternative water supply information.

The application shall identify the extent to which the proposed surface mining activities may proximately result in contamination, diminution, or interruption of an underground or surface source of water within the proposed mine plan or adjacent areas for domestic, agricultural, industrial, or other legitimate use. If contamination, diminution, or interruption may result, then the description shall identify the alternative sources of water supply that could be developed to replace the existing sources.

§779.18
Climatological information.

(a) When requested by the regulatory authority, the application shall contain a statement of the climatological factors that are representative of the proposed mine plan area including:

(1) The average seasonal precipitation;

(2) The average direction and velocity of prevailing winds; and

(3) Seasonal temperature ranges.

(b) The regulatory authority may request such additional data as deemed necessary to ensure compliance with the requirements of 30 CFR 780.14.

§779.19
Vegetation information.

(a) The permit application shall, if required by the regulatory authority, contain a map that delineates existing vegetative types and a description of the plant communities within the proposed permit area and within any proposed reference area. This description shall include information adequate to predict the potential for reestablishing vegetation.

(b) When a map or aerial photograph is required, sufficient adjacent areas shall be included to allow evaluation of vegetation as important habitat for fish and wildlife for those species of fish and wildlife identified under 30 CFR 779.20.

§779.20
Fish and wildlife resources information.

(a) Each application shall include a study of fish and wildlife and their habitats within the mine plan area and the portions of the adjacent areas where effects on such resources may reasonably be expected to occur.

(b) Prior to initiating such studies, the applicant shall contact the regulatory authority to determine what fish and wildlife resources information will be required.

(c) The regulatory authority in consultation with the appropriate State and Federal fish and wildlife management, conservation or land management agencies having responsibilities for fish and wildlife or their habitats, shall determine the level of detail and the areas of such studies according to--

(1) Published data and other information;

(2) Site-specific information obtained by the applicant; and

(3) Written guidance obtained from agencies consulted.

§779.21
Soil resources information.

(a) The applicant shall provide adequate soil survey information of the permit area consisting of the following:

(1) A map delineating different soils;

(2) Soil identification;

(3) Soil description; and

(4) Present and potential productivity of existing soils.

(b) Where the applicant proposes to use selected overburden materials as a supplement or substitute for topsoil, the application shall provide results of the analyses, trials, and tests required under 30 CFR 816.22.

§779.22
Land-use information.

(a) The application shall contain a statement of the condition, capability, and productivity of the land within the proposed permit area, including--

(1) A map and supporting narrative of the uses of the land existing at the time of the filing of the application. If the premining use of the land was changed within 5 years before the anticipated date of beginning the proposed operations, the historic use of the land shall also be described.

(2) A narrative of land capability and productivity, which analyzes the land-use description under paragraph (a) of this Section in conjunction with other environmental resources information required under this Part. The analysis shall provide analyses of:

(i) The capability of the land before any mining to support a variety of uses, giving consideration to soil and foundation characteristics, topography, vegetative cover and the hydrology of the proposed permit area; and

(ii) The productivity of the proposed permit area before mining, expressed as average yield of food, fiber, forage, or wood products from such lands obtained under high levels of management the productivity shall be determined by yield data or estimates for similar sites based on current data from the U.S. Department of Agriculture, State agricultural universities or appropriate State natural resource or agricultural agency.

(b) The application shall state whether the proposed mine plan area has been previously mined, and, if so, the following information, if available--

(1) The type of mining method used;

(2) The coal seams or other mineral strata mined;

(3) The extent of coal or other minerals removed;

(4) The approximate dates of past mining; and
(5) The uses of the land preceding mining.

(c) The application shall contain a description of the existing land uses and land use classifications under local law, if any, of the proposed mine plan and adjacent areas.

§779.24
Maps: General requirements.

The permit application shall include maps showing:

(a) All boundaries of lands and names of present owners of record of those lands, both surface and subsurface, included in or contiguous to the permit area;

(b) The boundaries of land within the proposed permit area upon which the applicant has the legal right to enter and begin surface mining activities;

(c) The boundaries of all areas proposed to be affected over the estimated total life of the proposed surface mining activities, with a description of size, sequence, and timing of the mining of subareas for which it is anticipated that additional permits will be sought;

(d) The location of all buildings on and within 1,000 feet of the proposed permit area, with identification of the current use of the buildings;

(e) The location of surface and sub-surface man-made features within, passing through, or passing over the proposed permit area, including, but not limited to major electric transmission lines, pipelines, and agricultural drainage tile fields;

(f) The location and boundaries of any proposed reference areas for determining the success of revegetation;

(g) The locations of water supply intakes for current users of surface water flowing into, out of, and within a hydrologic area defined by the regulatory authority, and those surface water which will receive discharges from affected areas in the proposed mine plan area;

(h) Each public road located in or within 100 feet of the proposed permit area;

(i) The boundaries of any public park and locations of any cultural or historical resources listed or eligible for listing in the National Register of Historic Places and known archeological sites within the mine plan or adjacent areas.

(j) Each public or private cemetery or Indian burial ground located in or within 100 feet of the proposed permit area;

(k) Any land within the proposed mine plan area and adjacent area which is within the boundaries of any units of the National System of Trails or the Wild and Scenic Rivers System, including study rivers designated under section 5(a) of the Wild and Scenic Rivers Act; and

(l) Other relevant information required by the regulatory authority.

§779.25
Cross sections, maps and plans.

The application shall include cross sections, maps and plans showing--

(a) Elevations and locations of test borings and core samplings;

(b) Elevations and locations of monitoring stations used to gather data for water quality and quantity, fish and wildlife, and air quality, if required, in preparation of the application;

(c) Nature, depth, and thickness of the coal seams to be mined, any coal or rider seams above the seam to be mined, each stratum of the overburden, and the stratum immediately below the lowest coal seam to be mined;

(d) All coal crop lines and the strike and dip of the coal to be mined within the proposed mine plan area;

(e) Location and extent of known workings of active, inactive, or abandoned underground mines, including mine openings to the surface within the proposed mine plan and adjacent areas;

(f) Location and extent of sub-surface water, if encountered, within the proposed mine plan or adjacent areas;

(g) Location of surface water bodies such as streams, lakes, ponds, springs, constructed or natural drains, and irrigation ditches within the proposed mine plan and adjacent areas;

(h) Location and extent of existing or previously surface-mined areas within the proposed mine plan area;

(i) Location and dimensions of existing areas of spoil, waste, and non-coal waste disposal, dams, embankments, other impoundments, and water treatment and air pollution control facilities within the proposed permit area;

(j) Location, and depth if available, of gas and oil wells within the proposed permit area and water wells in the mine plan area and adjacent area;

(k) Sufficient slope measurements to adequately represent the existing land surface configuration of the proposed permit area, measured and recorded according to the following:

(1) Each measurement shall consist of an angle of inclination along the prevailing slope extending 100 linear feet above and below or beyond the coal outcrop or the area to be disturbed or, where this is impractical, at locations specified by the regulatory authority.

(2) Where the area has been previously mined, the measurements shall extend at least 100 feet beyond the limits of mining disturbances, or any other distance determined by the regulatory authority to be representative of the premining configuration of the land.

(3) Slope measurements shall take into account natural variations in slope, to provide accurate representation of the range of natural slopes and reflect geomorphic differences of the area to be disturbed.

(l) Maps, plans and cross sections included in a permit application which are required by this Section shall be prepared by or under the direction of and certified by a qualified registered professional engineer or professional geologist, with assistance from experts in related fields such as land surveying and landscape architecture and shall be updated as required by the regulatory authority.

§779.27
Prime farmland investigation.

(a) The applicant shall conduct a pre-application investigation of the proposed mine plan area to determine whether lands within the area may be prime farmland.

(b) Land shall not be considered prime farmland where the applicant can demonstrate one of the following situations:
(1) The land has not been historically used as cropland;
(2) The slope of the land is 10 percent or greater;
(3) The land is not irrigated or naturally subirrigated, has no developed water supply that is dependable or of adequate quality, and the average annual precipitation is 14 inches or less;
(4) Other factors exist, such as a very rocky surface, or the land is frequently flooded during the growing season, more often than once in 2 years, and the flooding has reduced crop yields; or
(5) On the basis of a National Cooperative Soil Survey of lands within the mine plan area, there are no soil map units that have been designated prime farmland by the U.S. Soil Conservation Service.

(c) If the investigation establishes that the lands are not prime farmland, the applicant shall submit with the permit application a request for a negative determination which shows that the land for which the negative determination is sought meets one of the criteria of paragraph (b) of this Section.

(d) If the investigation indicates that lands within the proposed mine plan area may be prime farmlands, the applicant shall contact the U.S. Soil Conservation Service to determine if a soil survey exists for those lands have a soil survey and whether the applicable soil map units have been designated as prime farmlands. If no soil survey has been made for the lands within the proposed mine plan area, the applicant shall cause such a survey to be made.

(1) When a soil survey of lands within the proposed mine plan area contains soil map units which have been designated as prime farmlands, the applicant shall submit an application, in accordance with 30 CFR 785.17 for such designated land.

(2) When a soil survey for lands within the proposed mine plan area contains soil map units which have not been designated, as prime farmland after review by the U.S. Soil Conservation Service, the applicant shall submit a request for negative determination for non-designated land with the permit application establishing compliance with paragraph (a) of this Section.

PART 780-- SURFACE MINING PERMIT APPLICATION-- MINIMUM REQUIRE FOR RECLAMATION AND OPERATION PLAN

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Authority : Sections 102, 201, 501, 503, 504, 506, 507, 508, 509, 510, 515, 517, and 522, Pub. L. 95-87, 91 Stat. 445 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1256, 1257, 1258, 1259, 1260, 1265, 1267, and 1272.)

§780.1
Scope.

This Part provides the minimum requirements for the Secretary's approval of regulatory program provisions for the mining operations and reclamation plan portions of applications for permits for surface mining activities, except to the extent that different requirements for those plans are established under 30 CFR 785.

§780.2
Objectives.

The objectives of this Part are to insure that the regulatory authority is provided with comprehensive and reliable information on proposed surface mining activities, and to ensure that those activities are allowed to be conducted only in compliance with the Act, this Chapter, and the regulatory program.

§780.4
Responsibilities.

(a) It is the responsibility of the applicant to provide to the regulatory authority all of the information required by this Part, except where specifically exempted in this Part.

(b) It is the responsibility of State and Federal governmental agencies to provide information to the regulatory authority where specifically required in this Part.

§780.11
Operation plan: General requirements.

Each application shall contain a description of the mining operations proposed to be conducted during the life of the mine within the proposed mine plan area, including, at a minimum, the following:

(a) A narrative description of the type and method of coal mining procedures and proposed engineering techniques, anticipated annual and total production of coal, by tonnage, and the major equipment to be used for all aspects of those operations; and

(b) A narrative explaining the construction, modification, use, maintenance, and removal of the following facilities: (unless retention of such facilities is necessary for post-mining land use as specified in Section 816.133).

(1) Dams, embankments, and other impoundments;

(2) Overburden and topsoil handling and storage areas and structures;

(3) Coal removal, handling, storage, cleaning, and transportation areas and structures;

(4) Spoil, coal processing waste, and non-coal waste removal, handling, storage, transportation, and disposal areas and structures;

(5) Mine facilities; and

(6) Water and air pollution control facilities.

780.12
Operation plan: Existing structures.

(a) Each application shall contain a description of each existing structure proposed to be used in connection with or to facilitate the surface coal mining and reclamation operation.

The description shall include -

(1) Location;

(2) Plans of the structure which describe its current condition;

(3) Approximate dates on which construction of the existing structure was begun and completed; and

(4) A showing, including relevant monitoring data or other evidence, whether the structure meets the performance standards of Subchapter K (Permanent Program Standards) of this Chapter or, if the structure does not meet ther performance standards of Subchapter K of this Chapter, a showing whether the structure meets the performance standards of Subchapter B (Interim Program Standards) of this Chapter.

(b) Each application shall contain a compliance plan for each existing structure proposed to be modified or reconstructed for use in connection with or to facilitate the surface coal mining and reclamation operation. The compliance plan shall include -

(1) Design specifications for the modification or reconstruction of the structure to meet the design and performance standards of Subchapter K of this Chapter;

(2) A construction schedule which shows dates for beginning and completing interim steps and final reconstruction;

(3) Provisions for monitoring the structure during and after modification or reconstruction to ensure that the performance standards of Subchapter K of this Chapter are met; and

(4) A showing that the risk of harm to the environment or to public health or safety is not significant during the period of modification or reconstruction.

§780.13
Operation plan: Blasting.

Each application shall contain a blasting plan for the permit area, explaining how the applicant intends to comply with the requirements of 30 CFR sections 816.61-816.68 and including the following:

(a) Types and approximate amounts of explosives to be used for each type of blasting operation to be conducted;

(b) Description of procedures and plans for recording and retention of information on the following during blasting--

(1) Drilling patterns, including size, number, depths, and spacing of holes;

(2) Charge and packing of holes;

(3) Types of fuses and detonation controls; and

(4) Sequence and timing of firing holes.

(c) Description of blasting warning and site access control equipment and procedures;

(d) Description of types, capabilities, sensitivities, and locations of use of any blast monitoring equipment and procedures proposed to be used;

(e) Description of plans for recording and reporting to the regulatory authority the results of preblasting surveys, if required; and

(f) Description of unavoidable hazardous conditions for which deviations from the blasting schedule will be needed under 30 CFR 816.65(b).

§780.14
Operation plan: Maps and plans.

Each application shall contain maps and plans of the proposed mine plan and adjacent areas as follows--

(a) The maps and plans shall show the lands proposed to be affected throughout the operation and any change in a facility or feature to be caused by the proposed operations, if the facility or feature was shown under 30 CFR 779.24-779.25.

(b) The following shall be shown for the proposed permit area unless specifically required for the mine plan area or adjacent area by the requirements of this Section:

(1) Buildings, utility corridors and facilities to be used;

(2) The area of land to be affected within the proposed mine plan area, according to the sequence of mining and reclamation;

(3) Each area of land for which a performance bond or other equivalent guarantee will be posted under Subchapter J of this Chapter;

(4) Each coal storage, cleaning and loading area;

(5) Each topsoil, spoil, coal waste, and non-coal waste storage area;

(6) Each water diversion, collection, conveyance, treatment, storage, and discharge facility to be used;

(7) Each air pollution collection and control facility;

(8) Each source of waste and each waste disposal facility relating to coal processing or pollution control;

(9) Each facility to be used to protect and enhance fish and wildlife and related environmental values;

(10) Each explosive storage and handling facility; and

(11) Location of each sedimentation pond, permanent water impoundment, coal processing waste bank, and coal processing waste dam and embankment, in accordance with 30 CFR 780.25, and fill area for the disposal of excess spoil in accordance 30 CFR 780.35.

(c) Maps, plans, and cross-sections required under subparagraphs (b)(4), (5), (10), and (11) of this section shall be prepared by, or under the direction of and certified by a qualified registered professional engineer, or professional geologist, with assistance from experts in related fields such as land surveying and landscape architecture, except that--

(1) Maps, plans and cross-sections for sedimentation ponds may only be prepared by a qualified registered engineer; and,

(2) Spoil disposal facilities, maps, plans, and cross-sections may only be prepared by a qualified registered professional engineer.

§780.15
Air pollution control plan.

(a) For all surface mining activities with projected production rates exceeding 1,000,000 tons of coal per year and located west of the 100th meridian west longitude, the application shall contain an air pollution control plan which includes the following:

(1) An air quality monitoring program to provide sufficient data to evaluate the effectiveness of the fugitive dust control practices proposed under paragraph (a)(2) of this Section to comply with Federal and State air quality standards; and

(2) A plan for fugitive dust control practices as required under 30 CFR 816.95.

(b) For all other surface mining activities the application shall contain an air pollution control plan which includes the following:

(1) An air quality monitoring program, if required by the regulatory authority, to provide sufficient data to evaluate the effectiveness of the fugitive dust control practices under paragraph (b)(2) of this Section to comply with applicable Federal and State air quality standards; and

(2) A plan for fugitive dust control practices, as required under 30 CFR 816.95.

§780.16
Fish and wildlife plan.

(a) Each application shall contain a fish and wildlife plan, consistent with the performance standards of 30 CFR 816.97 which provides:

(1) A statement of how the plan will minimize disturbances and adverse impacts on fish and wildlife and related environmental values during surface coal mining and reclamation operations, and how enhancement of these resources

will be achieved, where practicable. The plan shall cover the mine plan area and portions of adjacent areas as determined by the regulatory authority pursuant to Section 779.20(c).

(2) If the applicant states that it will not be practicable, in accordance with Paragraph (1), to achieve a condition which clearly shows a trend toward enhancement of fish and wildlife resources at the time revegetation has been sucessfully completed under 30 CFR 816.111 - 816.117, a statement shall be provided which establishes, to the satisfaction of the regulatory authority, why it is not practicable to achieve such a condition.

(b) A statement explaining how the applicant will utilize impact control measures, management techniques, and monitoring methods to protect or enhance the following, if they are to be affected by the proposed activities:

(1) Threatened or endangered species of plants or animals listed by the Secretary under the Endangered Species Act of 1973, as amended (16 U.S.C. Sec. 1531 et seq.) and their critical habitats;

(2) Species such as eagles, migratory birds or other animals protected by State or Federal law, and their habitats; or other species identified through the consultation process pursuant to 779.20; or

(3) Habitats of unusually high value for fish and wildlife, such as wetlands, riparian areas, cliffs supporting raptors, areas offering special shelter or protection, reproduction and nursery areas, and wintering areas.

§780.18
Reclamation plan: General requirements.

(a) Each application shall contain a plan for reclamation of the lands within the proposed permit area, showing how the applicant will comply with Section 515 of the Act, Subchapter K of this Chapter, and the environmental protection performance standards of the regulatory program. The plan shall include, at a minimum, all information required under 30 CFR 780.18-780.37.

(b) Each plan shall contain the following information for the proposed permit area--

(1) A detailed timetable for the completion of each major step in the reclamation plan;

(2) A detailed estimate of the cost of reclamation of the proposed operations required to be covered by a performance bond under subchapter J of this Chapter, with supporting calculations for the estimates;

(3) A plan for backfilling, soil stabilization, compacting, and grading, with contour maps or cross sections that show the anticipated final surface configuration of the proposed permit area, in accordance with 30 CFR 816.101-816.106;

(4) A plan for removal, storage, and redistribution of topsoil, subsoil, and other material to meet the requirements of 30 CFR 816.21-816.25.

(5) A plan for revegetation as required in 30 CFR 816.111-816.117, including, but not limited to, descriptions of the--

(i) Schedule of revegetation;

(ii) Species and amounts per acre of seeds and seedlings to be used;

(iii) Methods to be used in planting and seeding;

(iv) Mulching techniques;

(v) Irrigation, if appropriate, and pest and disease control measures, if any;

(vi) Measures proposed to be used to determine the success of revegetation as required in 30 CFR 816.116; and

(vii) A plan for soil testing to evaluate the results of topsoil handling and reclamation procedures related to revegetation.

(6) A description of the measures to be used to maximize the use and conservation of the coal resource as required in 30 CFR 816.59;

(7) A description of measures to be employed to ensure that all debris, acid-forming and toxic-forming materials, and materials constituting a fire hazard are disposed of in accordance with 30 CFR 816.89 and 816.103 and a description of the contingency plans which have been developed to preclude sustained combustion of such materials;

(8) A description, including appropriate cross sections and maps, of the measures to be used to seal or manage mine openings, and to plug, case or manage exploration holes, other bore holes, wells and other openings within the proposed permit area, in accordance with 30 CFR 816.13-816.15; and

(9) A description of steps to be taken to comply with the requirements of the Clean Air Act (42 U.S.C. Sec. 7401 et seq.), the Clean Water Act (33 U.S.C. Sec. 1251 et seq.), and other applicable air and water quality laws and regulations and health and safety standards.

§780.21
Reclamation plan: Protection of hydrologic balance.

(a) Each plan shall contain a detailed description, with appropriate maps and cross section drawings, of the measures to be taken during and after the proposed surface mining activities, in accordance with 30 CFR 816, to ensure the protection of:

(1) The quality of surface and ground water systems, both within the proposed mine plan area and adjacent areas, from the adverse effects of the proposed surface mining activities;

(2) The rights of present users of surface and ground water; and

(3) The quantity of surface and ground water both within the proposed mine plan area and adjacent area from adverse effects of the proposed surface mining activities, or to provide alternative sources of water in accordance with 30 CFR 779.17 and 816.54, where the protection of quantity cannot be ensured.

(b) The description shall include--

(1) A plan for the control, in accordance with 30 CFR 816, of surface and ground water drainage into, through and out of the proposed mine plan area;

(2) A plan for the treatment, where required under Subchapter K of this Chapter and the regulatory program, of surface and ground water drainage from the area to be disturbed by the proposed activities, and proposed quantitative limits on pollutants in discharges subject to 30 CFR 816.42, according to the more stringent of the following:

(i) Subchapter K of this Chapter and the regulatory program; or

(ii) Other applicable State and Federal laws.

(3) A plan for the restoration of the water recharge capacity of the mine plan area in accordance with 30 CFR 816.51; and

(4) A plan for the collection, recording, and reporting of ground and surface water quality and quantity data, according to 30 CFR 816.52.

(c) The description shall include a determination of the probable hydrologic consequences of the proposed surface mining activities, on the proposed mine plan area and adjacent area, with respect to the hydrologic regime and the quantity and quality of water in surface and ground water systems under all seasonal conditions, including the contents of dissolved and total suspended solids, total iron, pH, total manganese, and other parameters required by the regulatory authority.

§780.23
Reclamation plan: Post-mining land uses.

(a) Each plan shall contain a detailed description of the proposed use, following reclamation of the land within the proposed permit area including a discussion of the utility and capacity of the reclaimed land to support a variety of alternative uses, and the relationship of the proposed use to existing land use policies and plans. This description shall explain--

(1) How the proposed post-mining land use is to be achieved and the necessary support activities which may be needed to achieve the proposed land use;

(2) Where range or grazing is the proposed post-mining use, the detailed management plans to be implemented;

(3) Where a land use different from the pre-mining land use is proposed, all materials needed for approval of the alternative use under 30 CFR 816.133; and

(4) The consideration which has been given to making all of the proposed surface mining activities consistent with surface owner plans and applicable State and local land use plans and programs.

(b) The description shall be accompanied by a copy of the comments concerning the proposed use by the legal or equitable owner of record of the surface of the proposed permit area and the State and local government agencies which would have to initiate, implement, approve, or authorize the proposed use of the land following reclamation.

§780.25
Reclamation plan: Ponds, impoundments, banks, dams, and embank

(a) General.

Each application shall include a general plan for each proposed sedimentation pond, water impoundment, and coal processing waste bank, dam, or embankment within the proposed mine plan area.

(1) Each general plan shall--
(i) Be prepared by, or under the direction of, and certified by a qualified registered professional engineer, or by a professional geologist with assistance from experts in related fields such as land surveying and landscape architecture;
(ii) Contain a description, map, and cross section of the structure and its location;

(iii) Certain preliminary hydrologic and geologic information required to assess the hydrologic impact of the structure;
(iv) Contain a survey describing the potential effect on the structure from subsidence of the subsurface strata resulting from past underground mining operations if underground mining has occurred; and
(v) Contain a certification statement which includes a schedule setting forth the dates that any detailed design plans for structures that are not submitted with the original plan will be submitted to the regulatory authority. The regulatory authority shall have approved, in writing, the detailed design plan for a structure before construction of the structure begins.
(2) Each detailed design plan for a structure that meets or exceeds the size or other criteria of the Mine Safety and Health Administration, 30 CFR 77.216(a), shall--

(i) Be prepared by, or under the direction of, and certified by a qualified registered professional engineer with assistance from experts in related fields such as geology, land surveying, and landscape architecture;

(ii) Include any geotechnical investigation, design, and construction requirements for the structure;

(iii) Describe the operation and maintenance requirements for each structure; and

(iv) Describe the timetable and plans to remove each structure, if appropriate.

(3) Each detailed design plan for a structure that does not meet the size or other criteria of 30 CFR 77.216(a) shall--

(i) Be prepared by, or under the direction of, and certified by a qualified registered professional engineer or registered land surveyor except that all coal processing waste dams and embankments covered by 30 CFR 816.91-816.93 shall be certified by a qualified, registered professional engineer;

(ii) Include any design and construction requirements for the structure, including any required geotechnical information;

(iii) Describe the operation and maintenance requirements for each structure; and

(iv) Describe the timetable and plans to remove each structure, if appropriate.

(b) Sedimentation ponds. Sedimentation ponds, whether temporary or permanent, shall be designed in compliance with the requirements of 30 CFR 816.46. Any sedimentation pond or earthen structure which will remain on the proposed mine plan area as a permanent water impoundment shall also be designed to comply with the requirements of 30 CFR 816.49. Each plan shall, at a minimum, comply with the requirements of the Mine Health and Safety Administration, 30 CFR 77.216-1 and 77.216-2.

(c) Permanent and temporary impoundments. Permanent and temporary impoundments shall be designed to comply with the requirements of 30 CFR 816.49. Each plan shall comply with the requirements of the Mine Safety and Health Administration, 30 CFR 77.216-1 and 77.216-2.

(d) Coal processing waste banks. Coal processing waste banks shall be designed to comply with the requirements of 30 CFR 816.81-816.89.

(e) Coal processing waste dams and embankments. Coal processing waste dams and embankments shall be designed to comply with the requirements of 30 CFR 816.91-816.93. Each plan shall comply with the requirements of the Mine Safety and Health Administration, 30 CFR 77.216-1 and 77.216-2, and shall contain the results of a geotechnical investigation of the proposed dam or embankment foundation area, to determine the structural competence of the foundation which will support the proposed dam or embankment structure and the impounded material. The geotechnical investigation shall be planned and supervised by an engineer or engineering geologist, according to the following:

(1) The number, location, and depth of borings and test pits shall be determined using current prudent engineering practice for the size of the dam or embankment, quantity of material to be impounded, and subsurface conditions.

(2) The character of the overburden and bedrock, the proposed abutment sites, and any adverse geotechnical conditions which may affect the particular dam, embankment, or reservoir site shall be considered.

(3) All springs, seepage, and ground water flow observed or anticipated during wet periods in the area of the proposed dam or embankment shall be identified on each plan.

(4) Consideration shall be given to the possibility of mud-flows, rock-debris falls, or other landslides into the dam, embankment, or impounded material.

(f) If the structure is 20 feet or higher and impounds more than 20 acre-feet, each plan under paragraphs (b), (c), and (e) of this Section shall include a stability analysis of each structure. The stability analysis shall include, but not be limited to, strength parameters, pore pressures, and long-term seepage conditions. The plan shall also contain a description of each engineering design assumption and calculation with a discussion of each alternative considered in selecting the specific design parameters and construction methods.

§780.27
Reclamation plan: Surface mining near underground mining.

For surface mining activities within the proposed permit area to be conducted within 500 feet of an underground mine, the application shall describe the measures to be used to comply with 30 CFR 816.79.

§780.29
Diversions.

Each application shall contain descriptions, including maps and cross sections, of stream channel diversions and other diversions to be constructed within the proposed permit area to achieve compliance with 30 CFR 816.43-816.44.

§780.31
Protection of public parks and historic places.

For any public parks or historic places that may be adversely affected by the proposed operations, each plan shall describe the measures to be used to minimize or prevent these impacts and to obtain approval of the regulatory authority and other agencies as required in 30 CFR 761.12(f).

§780.33
Relocation or use of public roads.

Each application shall describe, with appropriate maps and cross sections, the measures to be used to ensure that the interests of the public and landowners affected are protected if, under 30 CFR 761.12(d), the applicant seeks to have the regulatory authority approve--

(a) Conducting the proposed surface mining activities within 100 feet of the right-of-way line of any public road, except where mine access or haul roads join that right-of-way; or

(b) Relocating a public road.

§780.35
Disposal of excess spoil.

(a) Each application shall contain descriptions, including appropriate maps and cross section drawings, of the proposed disposal site and design of the spoil disposal structures according to 30 CFR 816.71-816.73. These plans shall describe the geotechnical investigation, design, construction, operation, maintenance, and removal, if appropriate, of the site and structures.

(b) Each application shall contain the results of a geotechnical investigation of the proposed disposal site, including the following:

(1) The character of bedrock and any adverse geologic conditions in the disposal area,

(2) A survey identifying all springs, seepage, and ground water flow observed or anticipated during wet periods in the area of the disposal site;

(3) A survey of the potential effects of subsidence of the subsurface strata due to past and future mining operations;

(4) A technical description of the rock materials to be utilized in the construction of those disposal structures containing rock chimmey cores or underlain by a rock drainage blanket; and

(5) A stability analysis including, but not limited to, strength parameters, pore pressures and long-term seepage conditions. These data shall be accompanied by a description of all engineering design assumptions and calculations and the alternatives considered in selecting the specific design specifications and methods.

(c) If, under 30 CFR 816.71(i), rock-toe buttresses or key-way cuts are required, the application shall include the following:

(1) The number, location, and depth of borings or test pits which shall be determined with respect to the size of the spoil disposal structure and subsurface conditions; and

(2) Engineering specifications utilized to design the rock-toe buttress or key-way cuts which shall be determined in accordance with paragraph (b)(5) of this Section.

§780.37
Transportation facilities.

Each application shall contain a detailed description of each road, conveyor, or rail system to be constructed, used, or maintained within the proposed permit area. The description shall include a map, appropriate cross sections, and the following:

(a) Specifications for each road width, road gradient, road surface, road cut, fill embankment, culvert, bridge, drainage ditch, and drainage structure.

(b) A report of appropriate geotechnical analysis, where approval of the regulatory authority is required for alternative specifications, or for steep cut slopes under 30 CFR 816.150(d),816.152(c) 816.160(d) and 816.162(c).

(c) A description of measures to be taken to obtain approval of the regulatory authority for alteration or relocation of a natural drainageway under 30 CFR 816.153(d), 816.163(d) and 816.173(c).

(d) A description of measures, other than use of a rock headwall, to be taken to protect the inlet end of a ditch relief culvert, for approval by the regulatory authority under 30 CFF 816.153(c)(2)(vi) and 816.163(c)(2)(vi).

(e) Each plan shall contain a general description of each road, conveyor, or rail system to be constructed, used, or maintained within the proposed mine plan area.

PART 782-- UNDERGROUND MINING PERMIT APPLICATIONS-- MINIMUM REQUIREMENTS FOR LEGAL, FINANCIAL, COMPLIANCE AND RELATED INFORMATION

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Authority: Secs. 102, 201, 501, 503, 504, 506, 507, 508, 509, 510, 515, 516, and 522 of Pub. L. 95-87, 91 Stat. 445 (30 U.S.C. Secs. 1201, 1211, 1251, 1253, 1254, 1256, 1257, 1258, 1259, 1260, 1265, 1266, 1272).

§782.1
Scope.

This part establishes the minimum requirements for the Secretary's approval of regulatory program provisions regarding legal, financial, compliance and general information that must be contained in permit applications for underground mining activities.

§782.2
Objectives.

The objective of this part is to ensure that all relevant information on the ownership and control of persons who conduct underground mining activities, the ownership and control of the property to be affected by the operations, the compliance status and history of those persons, and other important information is provided in the application to the regulatory authority.

§782.4
Responsibility.

It is the responsibility of the permit applicant to provide to the regulatory authority all of the information required by this part.

§782.11
Applicability.

This Part applies to any person who applies for a permit to conduct underground mining activities.

§782.13
Identification of interests.

(a) Each application shall contain the names and addresses of--

(1) The permit applicant, including his or her telephone number;

(2) Every legal or equitable owner of record of the areas to be affected by surface operations and facilities and every legal or equitable owner of record of the coal to be mined;

(3) The holders of record of any leasehold interest in areas to be affected by surface operations or facilities and the holders of record of any leasehold interest in the coal to be mined;

(4) Any purchaser of record under a real estate contract of areas to be affected by surface operations and facilities and any purchaser of record under a real estate contract of the coal to be mined;

(5) The operator, if the operator is a person different from the applicant, including his or her telephone number; and

(6) The resident agent of the applicant who will accept service of process, including his or her telephone number.

(b) Each application shall contain a statement of whether the applicant is a corporation, partnership, single proprietorship, association or other business entity. For businesses other than single proprietorships, the application shall contain the following information, where applicable:

(1) Names and addresses of every officer, partner, director or other person performing a function similar to a director of the applicant;

(2) Name and address of any person who is a principal shareholder of the applicant; and

(3) Names under which the applicant, partner, or principal shareholder previously operated a surface coal mining operation in the United States within the 5 years preceding the date of application.

(c) If any owner, holder, purchaser, or operator, identified under paragraph (a) of this Section, is a business entity other than a single proprietor, the application shall contain the names and addresses of their respective principals, officers, and resident agents.

(d) Each application shall contain a statement of any current or previous coal mining permits in the United States held by the applicant subsequent to 1970 and by any person identified in paragraph (b)(3) of this Section and of any pending permit application to conduct surface coal mining and reclamation operations in the United States. The information shall be listed by permit or application number and identify the regulatory authority for each of those coal mining operations.

(e) Each application shall contain the names and addresses of the owners of record of all surface and subsurface areas contiguous to any part of the proposed permit area.

(f) Each application shall contain the name of the proposed mine and the Mine Safety and Health Administration identification number for the mine and all sections, if any.

(g) Each application shall contain a statement of all lands, interests in lands, options, or pending bids on interests held or made by the applicant for lands which are contiguous to the area to be covered by the permit.

§782.14
Compliance information.

Each application shall contain--

(a) A statement of whether the applicant, any subsidiary, affiliate, or persons controlled by or under common control with the applicant has:

(1) Had a Federal or State mining permit suspended or revoked in the last 5 years; or,

(2) Forfeited a mining bond or similar security deposited in lieu of bond.

(b) If any such suspension, revocation or forfeiture has occurred, a statement of the facts involved, including:

(1) Identification number and date of issuance of the permit or date and amount of bond or similar security;

(2) Identification of the authority that suspended or revoked a permit or forfeited a bond and the stated reasons for that action;

(3) The current status of the permit, bond or similar security involved;

(4) The date, location, and type of any administrative or judicial proceedings initiated concerning the suspension, revocation, or forfeiture; and

(5) The current status of these proceedings.

(c) A listing of each violation notice received by the applicant in connection with any surface coal mining operation during the 3-year period before the application date, for violations of any law, rule or regulation of the United States, or of any State law, rule or regulation enacted pursuant to Federal law, rules or regulation, or of any provision of the Act pertaining to air or water environmental protection. The application shall also contain a statement regarding each violation notice, including--

(1) The date of issuance and identity of the issuing regulatory authority, department, or agency;

(2) A brief description of the particular violation alleged in the notice;

(3) The date, location and type of any administrative or judicial proceedings initiated concerning the violation, including, but not limited to, proceedings initiated by the applicant to obtain administrative or judicial review of the violations;

(4) The current status of the proceedings and of the violation notice; and

(5) The actions, if any, taken by the applicant to abate the violation.

§782.15
Right of entry and operation information.

(a) Each application shall contain a description of the documents upon which the applicant bases his or her legal right to enter and begin underground mining activities in the permit area and whether that right is the subject of pending litigation. The description shall identify those documents by type and date of execution, identify the specific lands to which the document pertains, and explain the legal rights claimed by the applicant.

(b) For underground mining activities where the associated surface operations involve the surface mining of coal and the private mineral estate to be mined has been severed from the private surface estate the application shall contain--

(1) A copy of the written consent of the surface owner to the extraction of coal by surface mining methods; or

(2) A copy of the document of conveyance that expressly grants or reserves the right to extract the coal by surface mining methods; or

(3) If the conveyance does not expressly grant the right to extract coal by surface mining methods, documentation that under the applicable State law, the applicant has the legal authority to extract the coal by those methods.

(c) Nothing in this Section shall be construed to afford the regulatory authority the authority to adjudicate property title disputes.

§782.16
Relationship to areas designated unsuitable for mining.

(a) Each application shall contain a statement of available information on whether the proposed permit area is within an area designated unsuitable for underground mining activities under 30 CFR 764 and 765 or under study for designation in an administrative proceeding initiated under those Parts.

(b) If an applicant claims the exemption in 30 CFR 786.19(d)(2), the application shall contain information supporting the applicant's assertion that it made substantial legal and financial commitments before January 4, 1977, concerning the proposed underground mining activities.

(c) If an applicant proposes to conduct or locate surface operations or facilities within 300 feet of an occupied dwelling, the application shall include the waiver of the owner of the dwelling as required in 30 CFR 761.12(e).

§782.17
Permit term information.

(a) Each application shall state the anticipated or actual starting and termination date of each phase of the underground mining activities and the anticipated number of acres of surface lands to be affected, and the horizontal and vertical extent of proposed underground mine workings, for each phase of mining and over the total life of the permit.

(b) If the applicant proposes to conduct the underground mining activities in excess of 5 years, the application shall contain the information needed for the showing required under 30 CFR 786.25(a).

§782.18
Personal injury and property damage insurance information.

Each application shall contain either a certificate of liability insurance or evidence that the self-insurance requirements in 30 CFR 806.14 are satisfied.

§782.19
Identification of other licenses and permits.

Each application shall contain a list of all other licenses and permits needed by the applicant to conduct the proposed underground mining activities. This list shall identify each license and permit by--

(a) Type of permit or license;

(b) Name and address of issuing authority;

(c) Identification numbers of applications for those permits or licenses or, if issued, the identification numbers of the permits or licenses; and

(d) If a decision has been made, the date of approval or disapproval by each issuing authority.

§782.20
Identification of location of public office for filing of appl

Each application shall identify, by name and address, the public office where the applicant will simultaneously file a copy of the application for public inspection under 30 CFR 786.11(d).

§782.21
Newspaper advertisement and proof of publication.

(a) A copy of the newspaper advertisement and proof of publication of the advertisement shall be filed with the regulatory authority and made a part of the application not later than 4 weeks after the last date of publication required under 30 CFR 786.11(a).

PART 783-- UNDERGROUND MINING PERMIT APPLICATIONS-- MINIMUM REQUIREMENTS FOR INFORMATION ENVIRONMENTAL RESOURCES

Sec.
783.1 Scope.
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783.24 Maps: General requirements.
783.25 Cross sections, maps, and plans.
783.27 Prime farmland investigation.

Authority: Secs. 102, 201, 501, 503, 504, 506, 507, 508, 509, 510, 515, 516, 517, and 522, Pub. L. 95-87, 91 Stat. 445. (30 U.S.C. 1201, 1211, 1251, 1253, 1254, 1256, 1257, 1258, 1259, 1260, 1265, 1266, 1267, and 1272).

§783.1
Scope.

This Part establishes the minimum requirements for the Secretary's approval of regulatory program provisions for the environmental resources contents of applications for permits for underground mining activities.

§783.2
Objectives.

The objectives of this Part are to ensure that each application provides to the regulatory authority a complete and accurate description of the environmental resources that may be impacted or affected by proposed underground mining activities.

§783.4
Responsibilities.

(a) It is the responsibility of the applicant to provide, except where specifically exempted in this Part, all information in the application required by this Part.

(b) It is the responsibility of State and Federal Government agencies to provide information for applications as specifically provided for in this Part.

§783.11
General requirements.

Each permit application shall include a description of the existing, premining environmental resources within the proposed mine plan area and adjacent areas that may be affected by the proposed underground mining activities.

§783.12
General environmental resources information.

Each application shall describe and identify--
(a) The size, sequence and timing of the subareas of the mine plan area for which it is anticipated that individual permits for mining will be requested over the estimated total life of the proposed underground mining activities; and

(b) The nature of cultural and historic resources listed or eligible for listing on the National Register of Historic Places and known archeological sites within the proposed mine plan and adjacent areas. The description shall be based on all available information, including, but not limited to, data of State and local archeological, historic, and cultural preservation agencies.

§783.13
Description of hydrology and geology: General requirements.

(a) Each application shall contain a description of the geology, hydrology, and water quality and quantity of all lands within the proposed mine plan area, the adjacent area, and the general area. The description shall include information on the characteristics of all surface and ground waters within the general area, and any water which will flow into or receive discharges of water from the general area. The description shall be prepared according to Sections 783.13-783.17 and conform to the following:

(1) Information on hydrology, water quality and quantity and geology related to hydrology of areas outside the proposed mine plan area and within the general area shall be provided by the regulatory authority, to the extent that this data is available from an appropriate Federal or State agency.

(2) If this information is not available from those agencies the applicant may gather and submit this information to the regulatory authority as part of the permit application.

(3) The permit shall not be approved by the regulatory authority until this information is made available in the application.

(b) The use of modeling techniques may be included as part of the permit application, but the same surface and ground water information may be required for each site as when models are not used.

§783.14
Geology description.

(a) The description shall include a general statement of the geology within the proposed mine plan area down to and including the first aquifer below the lowest coal seam to be mined. The geology for areas proposed to be affected by surface operations and facilities, those surface lands overlying coal to be mined, and the coal to be mined shall be separately described, as follows:

(1) Geology of the strata down to and including the stratum immediately below any coal seam to be mined shall be described for those areas to be affected by surface operations or facilities, including the following data resulting from analyses of test borings or core samplings or outcrop samples--

(i) The location of areas where subsurface water will be exposed at the face-up area;

(ii) The logs of drill holes showing the lithologic characteristics of the strata to be affected;

(iii) The physical properties of each stratum within the overburden, including compaction and erodibility; and,

(iv) Chemical analyses of each stratum to be affected, including the stratum immediately below the lowest coal seam to be mined to identify those horizons which contain potential acid-forming or toxic-forming materials.

(2) The geology for those surface lands within the proposed mine plan area which are underlain by the coal seam to be extracted and the geology of the coal seam itself, including--

(i) The depth and classification of the overburden;

(ii) The geologic structure of the overburden;

(iii) Pyritic content and potential alkalinity of the stratum immediately above and below the coal seam to be mined and the clay content of the stratum immediately below the coal seam to be mined; and

(iv) Pyrite, marcasite and sulfur content of the coal seam.

(b) An applicant may request that the requirements of paragraph (a) of this section be waived by the regulatory authority. The waiver may be granted only if the regulatory authority makes a written determination that description required is unnecessary because other equivalent information is accessible to it in a satisfactory form.

783.15
Air pollution control plan.

(a) For all surface operations associated with underground mining activities the application shall contain an air pollution control plan which includes the following:

(1) An air quality monitoring program, if required by the regulatory authority, to provide sufficient data to evaluate the effectiveness of the fugitive dust control practices, under paragraph (a)(2) of this Section to comply with applicable Federal and State air quality standards; and

(2) A plan for fugitive dust control practices, as required under 30 CFR 817.95.

§783.16
Ground water information.

(a) The application shall contain a description of the ground water hydrology for the proposed mine plan and adjacent area, including, at a minimum--

(1) The depth below the surface and the horizontal extent of the water table and aquifers;

(2) The lithology and thickness of the aquifer;

(3) The uses of the water in the aquifers and water table; and

(4) The quality of subsurface water, if encountered.

(b) The application shall contain additional information which describes the recharge, storage, and discharge characteristics of aquifers and the quality and quantity of ground water, according to the parameters and in the detail required by the regulatory authority.

§783.17
Surface water information.

(a) Surface water information shall be described, including the name of the watershed which will receive water discharges, the location of all surface water bodies such as streams, lakes, ponds, and springs, the locations of any water discharge into any surface body of water, and descriptions of surface drainage patterns sufficient to identify, in detail, the seasonal variations, within the proposed mine plan and adjacent areas.

(b) Surface water information shall include:

(1) Minimum, maximum, and average discharge conditions, which identify critical low flows and peak discharge rates of streams sufficient to identify seasonal variations; and

(2) Water quality data to identify the characteristics of surface waters in, discharging into, or which will receive flows of surface or ground water from the affected area within the proposed mine plan area, sufficient to identify seasonal variations, showing--

(i) Total dissolved solids in milligrams per liter;
(ii) Total suspended solids in milligrams per liter;
(iii) Acidity;
(iv) pH in standard units;
(v) Total and dissolved iron in milligrams per liter;
(vi) Total manganese in milligrams per liter; and
(vii) Such other information as the regulatory authority determines is relevant.

§783.18
Alternative water supply information.

The application shall identify the extent to which the proposed underground mining activities may proximately result in contamination, diminution, or interruption of an underground or surface source of water within the proposed mine plan or adjacent area for domestic, agricultural, industrial, or other legitimate use. If contamination, diminution, or interruption may result, then the description shall identify the alternative sources of water supply that could be developed to replace the existing sources.

§783.19
Climatological information.

(a) When requested by the regulatory authority, the application shall contain a statement of the climatological factors that are representative of the proposed mine plan area, including--

(1) The average seasonal precipitation;

(2) The average direction and velocity of prevailing winds; and

(3) Seasonal temperature ranges.

(b) The regulatory authority may request such additional data as deemed necessary to ensure compliance with the requirements of this Subchapter.

§783.20
Vegetation information.

(a) The permit application shall, if required by the regulatory authority, contain a map that delineates existing vegetative types and a description of the plant communities within the area affected by surface operations and facilities and within any proposed reference area. This description shall include information adequate to predict the potential for reestablishing vegetation.

(b) When a map or aerial photograph is required, sufficient adjacent areas shall be included to allow evaluation of vegetation as important habitat for fish and wildlife for those species of fish and wildlife identified under 30 CFR 779.20.

§783.21
Fish and wildlife resources information.

(a) Each application shall include a study of fish and wildlife and their habitats within the mine plan area where surface operations are conducted or facilities are located and the portions of the adjacent areas where effects on such resources may reasonably be expected to occur.

(b) Prior to initiating such studies the applicant shall contact the regulatory authority to determine what fish and wildlife resources information will be required.

(c) The regulatory authority in consultation with the appropriate State and Federal wildlife management, conservation, or land management agencies having responsibilities for wildlife or their habitats, shall determine the level of detail and the areas of such studies according to:

(1) Published data and other information,

(2) Site specific information obtained by the applicant, and

(3) Written guidance obtained from agencies consulted.

§783.22
Soil resources information.

(a) The applicant shall provide adequate soil survey information on those portions of the permit area to be affected by surface operations or facilities consisting of the following:

(1) A map delineating different soils;

(2) Soil identification;

(3) Soil description; and

(4) Present and potential productivity of existing soils.

(b) Where the applicant proposes to use selected overburden materials as a supplement or substitute for topsoil, the application shall provide results of the analyses, trials and tests required under 30 CFR 817.22.

§783.23
Land use information.

(a) The application shall contain a statement of the condition, capability and productivity of the land which will be affected by surface operations and facilities within the proposed permit area, including--

(1) A map and supporting narrative of the general uses of the land existing at the time of the filing of the

application. If the premining use of the land was changed within 5 years before the anticipated date of beginning the proposed operations, the historic use of the land shall also be described.

(2) A narrative of land capability and productivity, which analyses the land-use description under paragraph (a) of this Section in conjunction with other environmental resources information required under this Part. The narrative shall provide analyses of:

(i) The capability of the land before any mining to support a variety of uses, giving consideration to soil and foundation characteristics, topography, vegetative cover, and the hydrology of the area proposed to be affected by surface operations or facilities; and

(ii) The productivity of the area proposed to be affected by surface operations and facilities before mining, expressed as average yield of food, fiber, forage, or wood products from such lands obtained under high levels of management. The productivity shall be determined by yield data or estimates for similar sites based on current data from the U.S. Department of Agriculture, State agricultural universities or appropriate State natural resources or agricultural agencies.

(b) The application shall state whether the proposed mine plan area has been previously mined, and, if so, the following information, if available--

(1) The type of mining method used;

(2) The coal seams or other mineral strata mined;

(3) The extent of coal or other minerals removed;

(4) The approximate dates of past mining; and

(5) The uses of the land preceding mining.

(c) The application shall contain a description of the existing land uses and land use classifications under local law, if any, of the proposed mine plan and adjacent areas.

§783.24
Maps: General requirements.

The permit application shall include maps showing:

(a) All boundaries of lands and names of present owners of record of those lands, both surface and sub-surface, included in or contiguous to the permit area;

(b) The boundaries of land within the proposed permit area upon which the applicant has the legal right to enter and begin underground mining activities;

(c) The boundaries of all areas proposed to be affected over the estimated total life of the underground mining activities, with a description of size, sequence and timing of the mining of sub-areas for which it is anticipated that additional permits will be sought;

(d) The location of all buildings in and within 1000 feet of the proposed permit area, with identification of the current use of the buildings;

(e) The location of surface and sub-surface man-made features within, passing through, or passing over the proposed permit area, including, but not limited to, major electric transmission lines, pipelines, and agricultural drainage tile fields;

(f) The location and boundaries of any proposed reference areas for determining the success of revegetation;

(g) The locations of water supply intakes for current users of surface waters flowing into, out of, and, within a hydrologic area defined by the regulatory authority, and those surface waters which will receive discharges from affected areas in the proposed mine plan area;

(h) Each public road located in or within 100 feet of the proposed permit area;

(i) The boundaries of any public park and locations of any cultural or historical resources listed or eligible for listing in the National Register of Historic Places and known archeological sites within the mine plan or adjacent areas.

(j) Each public or private cemetery or Indian burial ground located in or within 100 feet of the proposed permit area;

(k) Any land within the proposed mine plan area and adjacent area which is within the boundaries of any units of the National System of Trails or the Wild and Scenic Rivers System, including study rivers designated under Section 5(a) of the Wild and Scenic Rivers Act; and

(l) Other relevant information required by the regulatory authority.

§783.25
Cross sections, maps, and plans.

The application shall include cross sections, maps, and plans showing--

(a) Elevations and locations of test borings and core samplings;

(b) Elevations and locations of monitoring stations used to gather data on water quality and quantity and fish and wildlife in preparation of the application;

(c) Nature, depth, and thickness of the coal seams to be mined, any coal or rider seams above the seam to be mined, each stratum of the overburden, and the stratum immediately below the lowest coal seam to be mined;

(d) All coal crop lines and the strike and dip of the coal to be mined within the mine plan area;

(e) Location and extent of known workings of active, inactive, or abandoned underground mines, including mine openings to the surface within the proposed mine plan and adjacent areas;

(f) Location and extent of sub-surface water, if encountered, within the proposed mine plan or adjacent areas, including, but not limited to aerial and vertical distribution of aquifers, and portrayal of seasonal differences of head in different aquifers on cross-sections and contour maps;

(g) Location of surface water bodies such as streams, lakes, ponds, springs, constructed or natural drains, and irrigation ditches within the proposed mine plan and adjacent areas;

(h) Location and extent of existing or previously surface-mined areas within the proposed mine plan area;

(i) Location and dimensions of existing areas of spoil, waste, coal development waste, and non-coal waste disposal, dams, embankments, other impoundments, and water treatment and air pollution control facilities within the proposed permit area;

(j) Location, and depth if available, of gas and oil wells within the proposed permit area and water wells in the mine plan area and adjacent areas;

(k) Sufficient slope measurements to adequately represent the existing land surface configuration of the area affected by surface operations and facilities, measured and recorded according to the following:

(1) Each measurement shall consist of an angle of inclination along the prevailing slope extending 100 linear feet above and below or beyond the coal outcrop or the area to be disturbed or, where this is impractical, at locations specified by the regulatory authority.

(2) Where the area has been previously mined, the measurements shall extend at least 100 feet beyond the limits of mining disturbances, or any other distance determined by the regulatory authority to be representative of the premining configuration of the land.

(3) Slope measurements shall take into account natural variations in slope, to provide accurate representation of the range of natural slopes and reflect geomorphic differences of the area to be disturbed.

(l) Maps, plans and cross sections included in a permit application and required by this Section shall be prepared by, or under the direction of and certified by a qualified registered professional engineer or professional geologist, with assistance from experts in related fields such as land surveying and landscape architecture and shall be updated as required by the regulatory authority.

§783.27 Prime farmland investigation.

(a) The applicant shall conduct a pre-application investigation of the area proposed to be affected by surface operations or facilities to determine whether lands within the area may be prime farmland.

(b) Land shall not be considered prime farmland where the applicant can demonstrate one or more of the following:

(1) The land has not been historically used as cropland;

(2) The slope of the land is 10 percent or greater;

(3) The land is not irrigated or naturally subirrigated, has no developed water supply that is dependable and of adequate quality, and the average annual precipitation is 14 inches or less;

(4) Other factors exist, such as a very rocky surface, or the land is frequently flooded during the growing season more often than once in 2 years and the flooding has reduced crop yields; or

(5) On the basis of a soil survey of the lands, there are no soil map units that have been designated prime farmland by the U.S. Soil Conservation Service.

(c) If the investigation establishes that the lands are not prime farmland, the applicant shall submit with the permit application a request for a negative determination which shows that the land for which the negative determination is sought meets one or more of the criteria in paragraph (b) of this Section.

(d) If the investigation indicates that lands within the proposed area to be affected by surface operations and facilities may be prime farmlands, the applicant shall contact the U.S. Soil Conservation Service to determine if these lands have a soil survey and whether the applicable soil map units have been designated prime farmlands. If no such soil survey has been made for these lands, the applicant shall cause such a survey to be made.

(1) When a soil survey as required in paragraph (b) of this Section contains soil map units which have been designated as prime farmlands, the applicant shall submit application, in accordance with 30 CFR 785.17 for such designated land.

(2) When a soil survey as required in paragraph (b) of this Section contains soil map units which have not been designated, after review by the U.S. Soil Conservation Service, as prime farmland, the applicant shall submit a request for negative determination for non-designated land with the permit application establishing compliance with paragraph (a) of this Section.

PART 784-- UNDERGROUND MINING PERMIT APPLICATIONS-- MINIMUM REQUIREMENTS FOR RECLAMATION AND OPERATION PLAN

Sec.
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784.11 Operation plan: General requirements.
784.12 Operation plan: Existing structures
784.13 Reclamation plan: General requirements.
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784.15 Reclamation and operations plan: Post-mining land use
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784.20 Subsidence control plan.
784.21 Protection of fish and wildlife.
784.22 Diversions.
784.23 Maps and plans.
784.24 Transportation facilities.
784.25 Return of coal processing waste to abandoned undergro workings.

Authority: Secs. 102, 201, 501(b), 503, 504, 506, 507, 508, 509, 510, 515, 516, 517, and 522, Pub. L. 95-87, 91 Stat. 445 (30 U.S.C. 1201, 1211, 1251, 1253, 1254, 1256, 1257, 1258, 1259, 1260, 1265, 1266, 1267, 1267 and 1272).

§784.1
Scope.

This Part provides the minimum requirements for the Secretary's approval of regulatory program provisions for the mining operations and reclamation plans portions of applications for permits for underground mining activities, except to the extent that different requirements for those plans are established under 30 CFR 785.

§784.2
Objectives.

The objectives of this Part are to ensure that the regulatory authority is provided with comprehensive and reliable information on proposed underground mining activities, and to ensure that those activities are allowed to be conducted only in compliance with the Act, this Chapter, and the regulatory program.

§784.4
Responsibilities.

(a) It is the responsibility of the applicant to provide to the regulatory authority all of the information required by this Part, except where specifically exempted in this Part.

(b) It is the responsibility of State and Federal governmental agencies to provide information to the regulatory authority where specifically required in this Part.

§784.11
Operation plan: General requirements.

Each application shall contain a description of the mining operations proposed to be conducted during the life of the mine within the proposed mine plan area, including, at a minimum, the following:

(a) A narrative description of the type and method of coal mining procedures and proposed engineering techniques, anticipated annual and total production of coal, by tonnage, and the major equipment to be used for all aspects of those operations; and

(b) A narrative explaining the construction, modification, use, maintenance, and removal of the following facilities (unless retention of such facility is necessary for post mining land use as specified in Section 817.133)--

(1) Dams, embankments, and other impoundments;

(2) Overburden and topsoil handling and storage areas and structures;

(3) Coal removal, handling, storage, cleaning, and transportation areas and structures;

(4) Spoil, coal processing waste, mine development waste, and non-coal waste removal, handling, storage, transportation, and disposal areas and structures;

(5) Mine facilities; and

(6) Water pollution control facilities.

784.12
Operation plan: Existing structures.

(a) Each application shall contain a description of each existing structure proposed to be used in connection with or to facilitate the surface coal mining and reclamation operation.

The description shall include--

(1) Location;

(2) Plans of the structure which describe its current condition;

(3) Approximate dates on which construction of the existing structure was begun and completed; and

(4) A showing, including relevant monitoring data or other evidence, whether the structure meets the performance standards of Subchapter K (Permanent Program Standards) of this Chapter or, if the structure does not meet the performance standards of Subchapter K of this Chapter, a showing whether the structure meets the performance standards of Subchapter B (Interim Program Standards) of this Chapter.

(b) Each application shall contain a compliance plan for each existing structure proposed to be modified or reconstructed for use in connection with or to facilitate the surface coal mining and reclamation operation. The compliance plan shall include--

(1) Design specifications for the modification or reconstruction of the structure to meet the design and performance standards of Subchapter K of this Chapter;

(2) A construction schedule which shows dates for beginning and completing interim steps and final reconstruction;

(3) Provisions for monitoring the structure during and after modification or reconstruction to ensure that the performance standards of Subchapter K of this Chapter are met; and

(4) A showing that the risk of harm to the environment or to public health or safety is not significant during the period of modification or reconstruction.

784.13 Reclamation plan: General requirements.

(a) Each application shall contain a plan for the reclamation of the lands within the proposed permit area, showing how the applicant will comply with Sections 515 and 516 of the Act, Subchapter K of this Chapter, and the environmental protection performance standards of the regulatory program. The plan shall include, at a minimum, all information required under 30 CFR 784.13-784.25.

(b) Each plan shall contain the following information for the proposed permit area;

(1) A detailed timetable for the completion of each major step in the reclamation plan;

(2) A detailed estimate of the cost of the reclamation of the proposed operations required to be covered by a performance bond under Subchapter J of this Chapter, with supporting calculations for the estimates;

(3) A plan for backfilling, soil stabilization, compacting and grading, with contour maps or cross sections that show the anticipated final surface configuration of the proposed permit area, in accordance with 30 CFR 817.101-817.106;

(4) A plan for removal, storage, and redistribution of topsoil, subsoil, and other material to meet the requirements of 30 CFR 817.21-817.25;

(5) A plan for revegetation as required in 817.111-817.116, including, but not limited to, descriptions of the--

(i) Schedule of revegetation;

(ii) Species and amounts per acre of seeds and seedlings to be used;

(iii) Methods to be used in planting and seeding;

(iv) Mulching techniques;

(v) Irrigation, if appropriate, and pest and disease control measures, if any;

(vi) Measures proposed to be used to determine the success of revegetation as required in 30 CFR 817.116; and,

(vii) A soil testing plan for evaluation of the results of topsoil handling and reclamation procedures related to revegetation.

(6) A description of the measures to be used to maximize the use and conservation of the coal resource as required in 30 CFR 817.59;

(7) A description of measures to be employed to ensure that all debris, acid-forming and toxic-forming materials, and materials constituting a fire hazard are disposed of in accordance with 30 CFR 817.89 and 817.103 and a description of the contingency plans which have been developed to preclude sustained combustion of such materials;

(8) A description, including appropriate cross sections and maps, of the measures to be used to seal or manage mine openings, and to plug, case or manage exploration holes, other bore holes, wells and other openings within the proposed permit area, in accordance with 30 CFR 817.13-817.15; and

(9) A description of steps to be taken to comply with the requirements of the Clean Air Act (42 U.S.C. Sec. 7401 et. seq), the Clean Water Act (33 U.S.C. Sec. 1251 et. seq), and other applicable air and water quality laws and regulations and health and safety standards.

§784.14
Reclamation plan: Protection of hydrologic balance.

(a) Each plan shall contain a detailed description, with appropriate maps and cross-section drawings, of the measures to be taken during and after the proposed underground mining activities, in accordance with 30 CFR 817, to ensure the protection of:

(1) The quality of surface and ground water both within the proposed mine plan area and adjacent areas, from adverse effects of the proposed underground mining activities;

(2) The rights of present users to surface and ground water;

(3) The quantity of surface and ground water both within the proposed mine plan area and adjacent area from adverse effects of the proposed underground mining activities, or to provide alternative sources of water, in accordance with 30 CFR 783.17 and 817.54, where the protection of quantity cannot be ensured; and

(4) Water quality by locating openings for mines in accordance with 30 CFR 817.50.

(b) The description shall include--

(1) A plan for the control, in accordance with 30 CFR 817, of surface and ground water drainage into, through and out of the proposed mine plan area;

(2) A plan for the treatment, where required under Subchapter K of this Chapter and the regulatory program, and surface or ground water drainage from the area to be affected by the proposed activities, and proposed quantitative limits on pollutants in discharges subject to 30 CFR 817.42 according to the more stringent of the following:

(i) Subchapter K of this Chapter and the regulatory program; or

(ii) Other applicable State and Federal laws.

(3) A plan for the collection, recording, and reporting of ground and surface water quality and quantity data, according to 30 CFR 817.52.

(c) The description shall include a determination of the probable hydrologic consequences of the proposed underground mining activities, on the proposed mine plan area and adjacent area, with respect to the hydrologic regime and the quantity and quality of water in surface and ground water systems under all seasonal conditions, including the contents of dissolved and total suspended solids, total iron, pH, total manganese, and other parameters required by the regulatory authority.

(d) Each plan shall contain a detailed description, with appropriate drawings, of permanent entry seals and down-slope barriers designed to ensure stability under anticipated hydraulic heads developed while promoting mine inundation after mine closure for the proposed mine plan area.

§784.15
Reclamation plan: Post-mining land uses.

(a) Each plan shall contain a detailed description of the proposed use, following reclamation, of the land to be affected within the proposed permit area by surface operations or facilities, including a discussion of the utility and capacity of the reclaimed land to support a variety of alternative uses, and the relationship of the proposed use to existing land use policies and plans. This description shall explain--

(1) How the proposed post-mining land use is to be achieved and the necessary support activities which may be needed to achieve the proposed land use;

(2) Where a land use different from the pre-mining land use is proposed, all materials needed for approval of the alternative use under 30 CFR 817.133; and

(3) The consideration given to making all of the proposed underground mining activities consistent with surface owner plans and applicable State and local land use plans and programs.

(b) The description shall be accompanied by a copy of the comments concerning the proposed use from the legal or equitable owner of record of the surface areas to be affected by surface operations or facilities within the proposed permit area and the State and local government agencies which would have to initiate, implement, approve, or authorize the proposed use of the land following reclamation.

§784.16
Reclamation plan: Ponds, impoundments, banks, dams, and embankments.

(a) General. Each application shall include a general plan for each proposed sedimentation pond, water impoundment, and coal processing waste bank, dam, or embankment within the proposed mine plan area. Each general plan shall-

(i) Be prepared by, or under the direction of, and certified by a qualified registered professional engineer or by a professional geologist with assistance from experts in related fields such as land surveying and landscape architecture;

(ii) Contain a description, map, and cross section of the structure and its location;

(iii) Contain preliminary hydrologic and geologic information required to assess the hydrologic impact of the structure;

(iv) Contain a survey describing the potential effect on the structure from subsidence of the subsurface strata resulting from past underground mining operations if underground mining has occurred; and

(v) Contain a certification statement which includes a schedule setting forth the dates when any detailed design plans for structures that are not submitted with the original plan will be submitted to the regulatory authority. The regulatory authority shall have approved, in writing, the detailed design plan for a structure before construction of the structure begins.

(2) Each detailed design plan for a structure that meets or exceeds the size or other criteria of the Mine Safety and Health Administration, 30 CFR 77.216(a) shall--

(i) Be prepared by, or under the direction of, and certified by a qualified registered professional engineer with assistance from experts in related fields such as geology, land surveying, and landscape architecture;

(ii) Include any geotechnical investigation, design, and construction requirements for the structure;

(iii) Describe the operation and maintenance requirements for each structure; and

(iv) Describe the timetable and plans to remove each structure, if appropriate.

(3) Each detailed design plan that does not meet the size or other criteria of 30 CFR 77.216(a) shall-

(i) Be prepared by, or under the direction of, and certified by a qualified registered professional engineer or registered land surveyor except that all coal processing waste dams and embankments covered by 30 CFR 817.91-817.93 shall be certified by a qualified, registered professional engineer;

(ii) Include any design and construction requirements for the structure, including any required geotechnical information;

(iii) Describe the operation and maintenance requirements for each structure; and

(iv) Describe the timetable and plans to remove each structure, if appropriate.

(b) Sedimentation ponds.

(1) Sedimentation ponds, whether temporary or permanent, shall be designed in compliance with the requirements of 30 CFR 817.46. Any sedimentation pond or earthern structure which will remain on the proposed mine plan area as a permanent water impoundment shall also be designed to comply with the requirements of 30 CFR 817.49.

(2) Each plan shall, at a minimum, comply with the requirements of the Mine Health and Safety Administration, 30 CFR 77.216-1 and 77.216-2.

(c) Permanent and temporary impoundments. Permanent and temporary impoundments shall be designed to comply with the requirements of 30 CFR 817.49. Each plan shall comply with the requirements of the Mine Safety and Health Administration, 30 CFR 77.216-1 and 77.216-2.

(d) Coal processing waste banks. Coal processing waste banks shall be designed to comply with the requirements of 30 CFR 817.81-817.85.

(e) Coal processing waste dams and embankments. Coal processing waste dams and embankments shall be designed to comply with the requirements of 30 CFR 817.91-817.93. Each plan shall comply with the requirements of the Mine Safety and Health Administration, 30 CFR 77.216-1 and 77.216-2, and shall contain the results of a geotechnical investigation of the proposed dam or embankment foundation area, to determine the structural competence of the foundation which will support the proposed dam or embankment structure and the impounded material. The geotechnical investigation shall be planned and supervised by an engineer or engineering geologist, according to the following:

(1) The number, location, and depth of borings and test pits shall be determined using current prudent engineering practice for the size of the dam or embankment, quantity of material to be impounded, and subsurface conditions.

(2) The character of the overburden and bedrock, the proposed abutment sites, and any adverse geotechnical conditions which may affect the particular dam, embankment, or reservoir site shall be considered.

(3) All springs, seepage, and ground water flow observed or anticipated during wet periods in the area of the proposed dam or embankment shall be identified on each plan.

(4) Consideration shall be given to the possibility of mud flows, rock-debris falls, or other landslides into the dam, embankment, or impounded material.

(f) If the structure is 20 feet or higher and impounds more than 20 acre-feet, each plan under paragraphs (b), (c), and (e) of this Section shall include a stability analysis of each structure. The stability analysis shall include, but not be limited to, strength parameters, pore pressures, and long-term seepage conditions. The plan shall also contain a description of each engineering design assumption and calculation with a discussion of each alternative considered in selecting the specific design parameters and construction methods.

§784.17
Protection of public parks and historic places.

For any public parks or historic places that may be adversely affected by the proposed operation, each plan shall describe the measures to be used to minimize or prevent these impacts and to obtain approval of the regulatory authority and other agencies as required in 30 CFR 761.12(f).

§784.18
Relocation or use of public roads.

Each application shall describe, with appropriate maps and cross sections, the measures to be used to ensure that the interests of the public and landowners affected are protected if, under 30 CFR 761.12(d), the applicant seeks to have the regulatory authority approve--

(a) Conducting the proposed underground mining activities within 100 feet of the right-of-way line of any public road, except where mine access or haul roads join that right-of-way; or

(b) Relocating the public road.

§784.19
Underground development waste.

(a) Each plan shall contain descriptions, including appropriate maps and cross-section drawings of the proposed disposal methods and sites for placing underground development waste and excess spoil generated at surface areas affected by surface operations and facilities, according to 30 CFR 817.71-817.73. Each plan shall describe the geotechnical investigation, design, construction, operation, maintenance and removal, if appropriate, of the structures and be prepared according to 30 CFR 780.35.

§784.20
Subsidence control plan.

The application shall include a survey which shall show whether structures or renewable resources land exist within the proposed permit and adjacent area and whether subsidence if it occurred could cause material damage or diminution of reasonably foreseeable use of such structures or renewable resources land. If the survey shows that no such structures or renewable resources land exist, or no such material damage or diminution could be caused in the event of mine subsidence and if the regulatory authority agrees with such conclusion, no further information need be provided in the application under this Section. In the event the survey shows such structures or renewable resources land exist, and that subsidence could cause material damage or diminution of value or forseeable use of the land, or if the regulatory authority determines that such damage or diminution could occur, the permit application shall include a subsidence control plan which shall contain the following information--

(a) A detailed description of the mining method and other measures to be taken which may affect subsidence, including:

(1) The technique of coal removal, such as longwall mining, room and pillar with pillar removal, hydraulic mining or other methods.

(2) The extent, if any, to which planned and controlled subsidence is intended.

(b) A detailed description of the measures to be taken to prevent subsidence from causing material damage or lessening the value or reasonably forseeable use of the surface, including--

(1) The anticipated effects of planned subsidence, if any;

(2) Measures, if any, to be taken in the mine to reduce the likelihood of subsidence, including such measures as--

(i) Backstowing or backfilling of voids;

(ii) Leaving support pillars of coal; and

(iii) Areas in which no coal removal is planned, including a description of the overlying area to be protected by leaving coal in place.

(3) Measures to be taken on the surface to prevent material damage or lessening of the value or reasonably forseeable use of the surface including such measures as--

(i) Reinforcement of sensitive structures or features;

(ii) Installation of footers designed to reduce damage caused by movement;

(iii) Change of location of pipelines, utility lines or other features;

(iv) Relocation of movable improvements to sites outside the angle-of-draw; and

(v) Monitoring, if any, to determine the commencement and degree of subsidence so that other appropriate measures can be taken to prevent or reduce material damage.

(c) A detailed description of the measures to be taken to mitigate the effects of any material damage or diminution of value or forseeable use of lands which may occur, including one or more of the following as required by 30 CFR 816.124--

(1) Restoration or rehabilitation of structures and features, including approximate land-surface contours, to premining condition.

(2) Replacement of structures destroyed by subsidence.

(3) Purchase of structures prior to mining and restoration of the land after subsidence to condition capable of supporting and suitable for the structures and forseeable land uses.

(4) Purchase of non-cancellable insurance policies payable to the surface owner in the full amount of the possible material damage or other comparable measures.

(d) A detailed description of measures to be taken to determine the degree of material damage or diminution of value or forseeable use of the surface, including such measures as--

(1) The results of pre-subsidence surveys of all structures and surface features which might be materially damaged by subsidence.

(2) Monitoring, if any, proposed to measure deformations near specified structures or features or otherwise as appropriate for the operation.

784.20
Fish and wildlife plan.

(a) Each application shall contain a fish and wildlife plan, consistent with the performance standards of 30 CFR 817.97 and which provides:

(1) A statement of how the plan will minimize disturbances and adverse impacts on fish and wildlife and related environmental values during surface coal mining and reclamation operations, and how enhancement of these resources will be achieved, where practicable. The plan shall cover the portions of the mine plan area and adjacent areas as determined by the regulatory authority pursuant to Section 783.20.

(2) If the applicant states that it will not be practicable, in accordance with paragraph (1), to achieve a condition which clearly shows a trend toward enhancement of fish and wildlife resources at the time revegetation has been successfully completed under 30 CFR 817.111 - 817.117, a statement shall be provided which establishes, to the satisfaction of the regulatory authority, why it is not practicable to achieve such a condition.

(b) A statement explaining how the applicant will utilize impact control measures, management techniques, and monitoring methods to protect or enhance the following, if they are to be affected by the proposed activities:

(1) Threatened or endangered species of plants or animals listed by the Secretary under the Endangered Species Act of 1973, as amended (16 U.S.C. Sec. 1531 et seq. and their critical habitats);

(2) Species such as eagles, migratory birds or other animals protected by State or Federal law, and their habitats; or other species identified through the consultation process pursuant to 783.20; or

(3) Habitats of unusually high value for fish and wildlife, such as wetlands, riparian areas, cliffs supporting raptors, areas offering special shelter or protection, reproduction and nursery areas, and wintering areas.

§784.21
Diversions.

Each application shall contain descriptions, including maps and cross sections, of stream channel diversions and other diversions to be constructed within the proposed permit area to achieve compliance with 30 CFR 817.43-817.44.

§784.22
Maps and plans.

Each application shall contain maps, plans, and cross-sections of the proposed mine plan and adjacent areas as follows--

(a) Cross-sections shall have a scale prescribed by the regulatory authority. The maps, plans and cross-sections shall show the underground mining activities to be conducted, the lands to be affected throughout the operation, and any change in a facility or feature to be caused by the proposed operations, if the facility or feature was shown under 30 CFR 783.24-783.25.

(b) The following shall be shown for the proposed permit area unless specifically required for the mine plan area or adjacent area by the requirements of this Section:

(1) Buildings, utility corridors, and facilities to be used;

(2) The area of land to be affected within the proposed mine plan area, according to the sequence of mining and reclamation;

(3) Each area of land for which a performance bond or other equivalent guarantee will be posted under Subchapter J of this Chapter;

(4) Each coal storage, cleaning and loading area;

(5) Each topsoil, spoil, coal preparation waste, underground development waste, and non-coal waste storage area;

(6) Each water diversion, collection, conveyance, treatment, storage and discharge facility to be used;

(7) Each source of waste and each waste disposal facility relating to coal processing or pollution control;

(8) Each facility to be used to protect and enhance fish and wildlife related environmental values;

(9) Each explosive storage and handling facility;

(10) Location of each sedimentation pond, permanent water impoundment, coal processing waste bank, and coal processing waste dam and embankment, in accordance with 30 CFR 784 and disposal areas for underground development waste and excess spoil, in accordance with 30 CFR 784.

(11) Each profile, at cross-sections specified by the regulatory authority, of the anticipated final surface configuration to be achieved for the affected areas;

(12) Location of each water and subsidence monitoring point;

(13) Location of each facility that will remain on the proposed permit area as a permanent feature, after the completion of underground mining activities.

(c) Maps, plans, and cross-sections required under subparagraphs (b)(5), (6), (10), and (11) shall be prepared by, or under the direction of and certified by a qualified professional engineer, or professional geologist, with assistance from experts in related fields such as land surveying and landscape architecture, except that--

(1) Maps, plans, and cross-sections for sedimentation ponds may only be prepared by a qualified registered engineer; and,

(2) Excess spoil and underground development waste facilities maps, plans, and cross-sections may only oe prepared by a qualified registered professional engineer.

§784.24
Transportation facilities.

Each application shall contain a detailed description of each road, conveyor, and rail system to be constructed, used, or maintained within the proposed permit area. The description shall include a map, appropriate cross sections, and the following:

(a) Specifications for each road width, road gradient, road surface, road cut, fill embankment, culvert, bridge, drainage ditch, and drainage structure.

(b) A report of appropriate geotechnical analysis, where approval of the regulatory authority is required for alternative specifications, or for steep cut slopes under 30 CFR 817.150(d), 817.152(c) 817.160(d) and 817.162(c).

(c) A description of each measure to be taken to obtain approval of the regulatory authority for alteration or relocation of a natural drainageway under 30 CFR 817.153(d), 817.163(d), and 817.173(c).

(d) A description of measures, other than use of a rock headwall, to be taken to protect the inlet end of a ditch relief culvert, for approval by the regulatory authority under 30 CFR 817.153(c)(2)(vi) and 817.163(c)(2)(vi).

(e) Each plan shall contain a general description of each road, conveyor, or rail system to be constructed, used, or maintained within the proposed mine plan area.

§784.25
Return of coal processing waste to abandoned underground worki

(a) Each plan shall describe the design, operation and maintenance of any proposed coal processing waste disposal facility, including flow diagrams and any other necessary drawings and maps, for the approval of the regulatory authority and the Mine Safety and Health Administration under 30 CFR 817.88.

(b) Each plan shall describe the source and quality of waste to be stowed, area to be backfilled, percent of the mine void to be filled, method of constructing underground retaining walls, influence of the backfilling operation on active underground mine operations, surface area to be supported by the backfill, and the anticipated occurrence of surface effects following backfilling.

(c) The applicant shall describe the source of the hydraulic transport mediums, method of dewatering the placed backfill, retainment of water underground, treatment of water if released to surface streams, and the effect on the hydrologic regime.

(d) The plan shall describe each permanent monitoring well to be located in the backfilled area, the stratum underlying the mined coal, and gradient from the backfilled area.

(e) The requirements of paragraphs (a), (b), (c), and (d) of this Section shall also apply to pneumatic backfilling operations, except where the requirements specifying hydrologic monitoring is exempted by the regulatory authority.

PART 785-- REQUIREMENTS FOR PERMITS FOR SPECIAL CATEGORIES OF MINING

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Authority: Secs. 102, 201, 501(b), 503, 504, 506, 507, 508, 509, 510, 511, 513, 514, 515, 516, 517, 519, 527, 529, 701, and 711, Pub. L. 95-87, 91 Stat. 445 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1256, 1257, 1258, 1259, 1260, 1261, 1263, 1264, 1265, 1266, 1267, 1269, 1277, 1279, 1291, 1301).

§785.1
Scope.

(a) This Part establishes the minimum requirements for regulatory program provisions for permits for certain categories of surface coal mining and reclamation operations. These requirements are in addition to the general permit requirements contained in this Subchapter G. All of the provisions of Subchapter G apply to these operations, unless otherwise specifically provided for in this Part.

§785.2
Objective.

The objective of this Part are to ensure that permits are issued for certain categories of surface coal mining and reclamation operations only after the regulatory authority receives information that shows that these operations will be conducted according to the applicable requirements of the Act, Subchapter K, and applicable regulatory programs.

§785.11
Anthracite surface coal mining and reclamation operations.

(a) This Section applies to any person who conducts or intends to conduct anthracite surface coal mining and reclamation operations in Pennsylvania.

(b) Each person who intends to conduct anthracite surface coal mining and reclamation operations in Pennsylvania shall apply for and obtain a permit in accordance with the requirements of this Subchapter. The following standards apply to applications for and issuance of permits:

(1) In lieu of the requirements of 30 CFR 816-817, the requirements of 30 CFR 820 shall apply.

(2) All other requirements of this Chapter including the bonding and insurance requirements of 30 CFR 809, except the bond limits and the period of revegetation responsibility apply to the extent they are required under Sections 509 or 510 of the Act.

(c) If the Pennsylvania anthracite permanent regulatory program in effect on August 3, 1977, is amended with respect to environmental protection performance standards, the Secretary shall issue additional regulations necessary to meet the purposes of the Act.

§785.12
Special bituminous surface coal mining and reclamation operati

(a) This section applies to any person who conducts or intends to conduct certain special bituminous coal surface mine operations in Wyoming.

(b) Each application for a permit for a special bituminous coal mine operation shall include, as part of the mining operations and reclamation plan, the detailed descriptions, maps and plans needed to demonstrate that the operations will comply with the requirements of the Act and 30 CFR 825.

(c) The regulatory authority may issue a permit for a special bituminous coal mine operation for which a complete application has been filed in accordance with this section, if it finds, in writing, that the operation will be conducted in compliance with the Act and 30 CFR 825.

(d) Upon amendment or revision to the Wyoming regulatory program, regulations, or decisions made thereunder, governing special bituminous coal mines, the Secretary shall issue additional regulations necessary to meet the purposes of the Act.

§785.13
Experimental practices mining.

(a) Paragraphs (b)-(i) of this Section apply to any person who conducts or intends to conduct surface coal mining and reclamation operations under a permit authorizing the use of alternative mining practices on an experimental basis if the practices require a variance from the environmental protection performance standards of Subchapter K and a regulatory program.

(b) The purpose of this Section is to provide requirements for the permitting of surface coal mining and reclamation operations that encourage advances in mining and reclamation practices or allow post-mining land use for industrial, commercial, residential or public use (including recreational facilities) on an experimental basis.

(c) Experimental practice, as used in this Section, means the use of alternative surface coal mining and reclamation operation practices for experimental or research purposes. Experimental practices need not comply with specific environmental protection performance standards of Subchapter K or a regulatory program, if approved pursuant to this Section.

(d) No person shall engage in or maintain any experimental practice, unless that practice is first approved in a permit by the regulatory authority and the Director.

(e) Each person who desires to conduct an experimental practice shall submit a permit application for the approval of the regulatory authority and the Director. The permit application shall contain appropriate descriptions, maps and plans which show:

(1) The nature of the experimental practice;

(2) How use of the experimental practice--

(i) Encourages advances in mining and reclamation technology, or,

(ii) Allows a post-mining land use for industrial, commercial, residential, or public use (including recreational facilities), on an experimental basis, when the results are not otherwise attainable under the approved regulatory program.

(3) That the mining and reclamation operations proposed for using an experimental practice are not larger or more numerous than necessary to determine the effectiveness and economic feasibility of the experimental practice;

(4) That the experimental practice--

(i) Is potentially more or at least as environmentally protective, during and after the proposed mining and reclamation operations, as those required under Subchapter K of this Chapter and the regulatory program and

(ii) Will not reduce the protection afforded public health and safety below that provided by the requirements of Subchapter K of this Chapter and the regulatory program;

(5) That the applicant will conduct special monitoring with respect to the experimental practice during and after the operations involved. The monitoring program shall--

(i) Insure the collection and analysis of sufficient and reliable data to enable the regulatory authority and the Director to make adequate comparisons with other surface coal mining and reclamation operations employing similar experimental practices and

(ii) Include requirements designed to identify, as soon as possible, potential risks to the environment and public health and safety from the use of the experimental practices.

(f) Each application shall set forth the environmental protection performance standards of Subchapter K which will be implemented, in the event the objective of the experimental practice is a failure.

(g) All experimental practices for which variances are sought shall be specifically identified through newspaper advertisements by the applicant and the written notifications by the regulatory authority required under 30 CFR 786.11.

(h) No permit authorizing an experimental practice shall be issued, unless the regulatory authority first finds, in writing, upon the basis of both a complete application filed in accordance with the requirements of this Section and the comments of the Director, that:

(1) The experimental practice meets all of the requirements of paragraphs (e)(2) through (e)(5) of this Section;

(2) The experimental practice is based on a clearly defined set of objectives which can reasonably be expected to be achieved;

(3) The experimental practice has been specifically approved, in writing, by the Director, based on the Director's findings that all of the requirements of paragraphs (e)(1) through (e)(5) of this Section will be met; and

(4) The permit contains conditions which specifically--

(i) Limit the experimental practice authorized to that granted by the regulatory authority and the Director;

(ii) Impose enforceable alternative environmental protection requirements; and

(iii) Require the person to conduct the periodic monitoring, recording and reporting program set forth in the application, with such additional requirements as the regulatory authority or the Director may require.

(i) Each permit which authorizes the use of an experimental practice shall be reviewed in its entirety at least every 3 years by the regulatory authority, or at least once prior to the middle of the permit term. After review, the regulatory authority shall, with the consent of the Director, require by order, supported by written findings, any reasonable revision or modification of the permit provisions necessary to ensure that the operations involved are conducted to protect fully the environment and public health and safety. Any person who is or may be adversely affected by the order shall be provided with an opportunity for a hearing as established in the particular regulatory program.

§785.14
Mountaintop removal mining.

(a) This Section applies to any person who conducts or intends to conduct surface mining activities by mountaintop removal mining.

(b) Mountaintop removal mining means surface mining activities, where the mining operation removes an entire coal seam or seams running through the upper fraction of a mountain, ridge, or hill, except as provided for in 30 CFR 824.11(a)(6), by removing substantially all of the overburden off the bench and creating a level plateau or a gently rolling contour, with no highwalls remaining, and capable of supporting post-mining land uses in accordance with the requirements of this Section.

(c) The regulatory authority may issue a permit for mountaintop removal mining, without regard to the requirements of 30 CFR 816.101-816.105 to restore the lands disturbed by such mining to their approximate original contour, if it first finds, in writing, on the basis of a complete application, that the following requirements are met:

(1) The proposed post-mining land use of the lands to be affected will be an industrial, commercial, agricultural, residential, or public facility (including recreational facilities) use and, if--

(i) After consultation with the appropriate land-use planning agencies, if any, the proposed land use is deemed by the regulatory authority to constitute an equal or better economic or public use of the affected land compared with the pre-mining use;

(ii) The applicant demonstrates compliance with the requirements for acceptable alternative post-mining land uses of 30 CFR 816.133;

(iii) The proposed use would be compatible with adjacent land uses and existing State and local land use plans and programs; and

(iv) The regulatory authority has provided, in writing, an opportunity of not more than 60 days to review and comment on such proposed use to the governing body of general purpose government in whose jurisdiction the land is located and any State or Federal agency which the regulatory authority, in its discretion, determines to have an interest in the proposed use.

(2) The applicant has demonstrated that, in place of restoration of the land to be affected to the approximate original contour under 30 CFR 816.101-816.105, the operation will be conducted in compliance with the requirements of 30 CFR 824.

(3) The requirements of 30 CFR 824 are made a specific condition of the permit.

(4) All other requirements of the Act, this Chapter, and the regulatory program are met by the proposed operations.

(5) The permit is clearly identified as being for mountaintop removal mining.

(d)(1) Any permits incorporating a variance issued under this Section shall be reviewed by the regulatory authority to evaluate the progress and development of mining activities to establish that the operator is proceeding in accordance with the terms of the variance-
(i) Within the sixth month preceding the third year from the date of its issuance;
(ii) Before each permit renewal; and
(iii) Not later than the middle of each permit term.
(2) Any review required under paragraph (d)(1) of this Section need not be held if the permittee has demonstrated and the regulatory authority finds, in writing, within three months before the scheduled review, that all operations under the permit are proceeding and will continue to be conducted in accordance with the terms of the permit and requirements of the Act, this Chapter, and the regulatory program.

(3) The terms and conditions of a permit for mountaintop removal mining may be modified at any time by the regulatory authority, if it determines that more stringent measures are necessary to insure that the operation involved are conducted in compliance with the requirements of the Act, this Chapter, and the regulatory program.

§785.15
Steep slope mining.

(a) This Section applies to any persons who conducts or intends to conduct steep slope surface coal mining and reclamation operations, except--

(1) Where an operator proposes to conduct surface coal mining and reclamation operations on flat or gently rolling terrain, leaving a plain or predominantly flat area, but on which an occasional steep slope is encountered as the mining operation proceeds;

(2) Where a person obtains a permit under the provisions of Section 785.14; or

(3) To the extent that a person obtains a permit incorporating a variance under Section 785.16.

(b) Any application for a permit for surface coal mining and reclamation operations covered by this Section shall contain sufficient information to establish that the operations will be conducted in accordance with the requirements of 30 CFR 826.12.

(d) No permit shall be issued for any operations covered by this Section, unless the regulatory authority finds, in writing, that in addition to meeting all other requirements of this Subchapter, the operation will be conducted in accordance with the requirements of 30 CFR 826.12.

§785.16
Permits incorporating variances from approximate original cont restoration requirements.

(a) This Section applies to non-mountaintop removal, steep slope surface coal mining and reclamation operations under a regulatory program, where the operation is not to be reclaimed to achieve the approximate original contour required by 30 CFR 816.101-816.106 or 817.101-817.106 and 826.12(b).

(b) The objective of this Section is to allow for a variance from approximate original contour restoration requirements on steep slope surface coal mining and reclamation operations to--

(1) Improve watershed control of lands within the permit area and on adjacent lands; and

(2) Make land within the permit area, after reclamation, suitable for an industrial, commercial, or public use, including recreational facilities.

(c) The regulatory authority may issue a permit for surface mining activities incorporating a variance from the requirement for restoration of the affected lands to their approximate original contour only if it first finds, in writing, on the basis of a complete application, that the following requirements are met:

(1) The applicant demonstrates that the purpose of the variance is to make the lands to be affected within the permit area suitable for an industrial, commercial, residential, or public use post-mining land use.

(2) The proposed use, after consultation with the appropriate land-use planning agencies, if any, constitutes an equal or better economic or public use; and

(3) The applicant has demonstrated compliance with the requirements for acceptable alternative post-mining land uses of 30 CFR 816.133 or 817.133.

(4) The applicant has demonstrated that the watershed of lands within the proposed permit area and adjacent areas will be improved by the operations. The watershed will only be deemed approved if--

(i) There will be a reduction in the amount of total suspended solids or other pollutants discharged to ground or surface waters from the permit area as compared to such discharges prior to mining, so as to improve public or private uses or the ecology of such waters; or, there will be reduced flood hazards within the watershed containing the permit area by reduction of the peak flow discharges from precipitation events or thaws;

(ii) The total volume of flows from the proposed permit area, during every season of the year, will not vary in a way that adversely affects the ecology of any surface water or any existing or planned use of surface or ground water, and

(iii) The appropriate State environmental agency approves the plan.

(5) The applicant has demonstrated that the owner of the surface of the lands within the permit area has knowingly requested, in writing, as part of the application, that a variance be granted. The request shall be made separately from any surface owner consent given for the operations under 30 CFR 778.15 or 783.15 and shall show an understanding that the variance could not be granted without the surface owner's request.

(6) The applicant has demonstrated that the proposed operations will be conducted in compliance with the requirements of 30 CFR 826.15.

(7) All other requirements of the Act, this Chapter, and the regulatory program will be met by the proposed operations.

(d) If a variance is granted under this Section--

(1) The requirements of 30 CFR 826.15 shall be made a specific condition of the permit.

(2) The permit shall be specifically marked as containing a variance from approximate original contour.

(e)(1) Any permits incorporating a variance issued under this Section shall be reviewed by the regulatory authority to evaluate the progress and development of the mining activities, to establish that the operator is proceeding in accordance with the terms of the variance--

(i) Within the sixth month preceding the third year from the date of its issuance;

(ii) Before each permit renewal; and

(iii) Not later than the middle of each permit term.

(f) If the permittee demonstrates to the regulatory authority at any of the times specified in paragraph (e)(1) or this Section that the operations involved have been and continue to be conducted in compliance with the terms and conditions of the permit, the requirements of the Act, this Chapter and the regulatory program, the review required at that time need not be held.

(g) The terms and conditions of a permit incorporating a variance under this Section may be modified at any time by the regulatory authority, if it determines that more stringent measures are necessary to insure that the operations involved are conducted in compliance with the requirements of this Act, this Chapter and the regulatory program.

(h) The regulatory authority may only grant variances in accordance with the Section if it has promulgated specific regulations to govern the granting of variances in accordance with the provisions of this Section and additional and more stringent requirements as it deems to be necessary.

§785.17
Prime farmlands.

(a) Scope.

This Section applies to any person who conducts or intends to conduct surface coal mining and reclamation operations on prime farmlands, that have been used as cropland (prime cropland) for at least 5 years out of the 10 years preceding the acquisition.

The regulatory authority may evaluate additional cropland history of the surrounding lands and the lands under consideration to determine if the permit area is clearly cropland but falls outside the specific 5 years in 10 criterion, in which case the regulations for prime farmland may be applied to include more years of cropland history only to increase the prime farmland acreage to be preserved.
Permit areas existing under permits issued prior to August 3, 1977, are exempt from this section.

(b) Application contents for prime farmland.

If land within the proposed permit area is identified as prime farmland under 30 CFR 779.27 or 783.27, the applicant shall submit a plan for the mining and restoration of the land. Each plan shall contain, at a minimum--

(1) A soil survey of the permit area according to the standards of the National Cooperative Soil Survey and in accordance with the procedures set forth in U.S. Department of Agriculture Handbooks 436 (Soil Taxonomy, 1975) and 18 (Soil Survey Manual, 1951).

(i) These publications are hereby incorporated by reference as they exist on the date of adoption of this Part. Notices of changes made to these publications will be periodically published by OSM in the Federal Register. Persons involved in the reconstruction of prime farmland or other soils and other interested persons should obtain a copy of these publications. Agriculture Handbook 436 (Soil Taxonomy) and 18 (Soil Survey Manual) are on file and available for inspection at the OSM Central Office, U.S. Department of the Interior, South Interior Building, Washington, D.C. 20240, at each OSM Regional Office, District Office, and Field Office and at the central office of the applicable State regulatory authority, if any. Copies of these publications may also be obtained by written request to the above locations. Copies of these documents are also available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, Stock Number 001-000-02597-0). In addition, these documents are available for inspection at the national, State, and local offices of the Soil Conservation Service, U.S. Department of Agriculture. Incorporation by reference provisions approved by the Director of the Federal Register ____(date).

(ii) The soil survey shall include a map unit and representative soil profile description for each prime farmland soil within the permit area unless other representative descriptions from the locality, prepared in conjunction with the National Cooperative Soil Survey, are available and their use is approved by the regulatory authority.

(2) The proposed method and type of equipment to be used for removal, storage, and replacement of the soil in accordance with 30 CFR 823.

(3) The moist bulk density of each major horizon of each prime farmland soil in the permit area. The moist bulk density shall be determined by laboratory tests of samples taken from within the permit area according to procedures set forth in Soil Survey Laboratory Methods and Procedures for Collecting Soil Samples (Soil Survey Investigations Report No. 1, U.S. Department of Agriculture, Soil Conservation Service, 1972). Other standard on site methods of estimating moist bulk density may be used where these methods correct for particle size distribution and moisture content and are approved by the Soil Conservation Service. In lieu of laboratory data from samples taken within the permit area the regulatory authority may permit use of moist bulk density values representing the soil series where such values have been established by the Soil Conservation Service.

(4) The location of areas to be used for the separate stockpiling of the soil and plans for soil stabilization before redistribution.

(5) If applicable, documentation, such as agricultural school studies or other scientific data from comparable areas, that supports the use of other suitable material, instead of the A, B, or C soil horizon, to obtain on the restored area equivalent or higher levels of yield as non-mined prime farmlands in the surrounding area under equivalent levels of management.

(6) Plans for seeding or cropping the final graded disturbed land and the conservation practices to be used to adequately control erosion and sedimentation and restoration of an adequate soil moisture regime, during the period from completion of regrading until release of the performance bond or equivalent guarantee under Subchapter J of this Chapter. Proper adjustments for seasons must be proposed so that final graded land is not exposed to erosion during seasons when vegetation or conservation practices cannot be established due to weather conditions.

(7) Available agricultural school studies or other scientific data for areas with comparable soils, climate, and management (including water management) that demonstrate that the proposed method of reclamation will achieve, within a reasonable time, equivalent or higher levels of yield after mining as existed before mining.

(8) Current estimated yields under a high level of management for each soil map unit from the USDA for each crop to be used in determining success of revegetation (Section 823.15). These yield estimates shall be used by the regulatory authority as the predetermined target level for determining success of revegetation. The target yields may be adjusted by the regulatory authority in consultation with the Secretary of Agriculture before approval of the permit application.

(9) In all cases, soil productivity for prime farmlands shall be returned to equivalent levels of yield as nonmined land of the same soil type in the surrounding area under equivalent management practices as determined from the soil survey performed pursuant to Section 785.17.

(c) Consultation with Secretary of Agriculture.

Before any permit is issued for areas that include prime farmlands, the regulatory authority shall consult with the Secretary of Agriculture. The Secretary of Agriculture shall provide for review and comment of the proposed method of soil reconstruction in the plan submitted under paragraph (b) of this Section. If the Secretary considers those methods to be inadequate, he or she shall suggest revisions resulting in more complete and adequate reconstruction. The Secretary of Agriculture has assigned his responsibilities under this Section to the Administrator of the U.S. Soil Conservation Service. The Soil Conservation Service shall carry out consultation and review through the State Conservationist located in each State.

(d) Issuance of permit.
A permit for the mining and reclamation of prime farmland may be granted by the regulatory authority, if it first finds, in writing, upon the basis of a complete application, that--

(1) The approved proposed post-mining land use will be prime farmland;

(2) The permit incorporates as specific conditions the contents of the plan submitted under paragraph (b) of this section, after consideration of any revisions to that plan suggested by the Secretary of Agriculture under paragraph (c) of this Section;

(3) The applicant has the technological capability to restore the prime farmland, within a reasonable time, to equivalent or higher levels of yield as non-mined prime farmland in the surrounding area under equivalent levels of management; and

(4) The proposed operations will be conducted in compliance with the requirements of 30 CFR 823 and other environmental protection performance and reclamation standards for mining and reclamation of prime farmland of the regulatory program.

785.18
Variances for delay in contemporaneous reclamation requirement combined surface and underground mining operations.

(a) Scope.

This Section applies to any person who conducts or intends to conduct combined surface mining activities and underground mining activities, where contemporaneous reclamation as required by Section 816.100 is not practicable and a delay is requested to allow underground mining activities to be conducted before the reclamation operation for the surface mining activities can be completed.

(b) Objective.

This Section is to allow for delay in reclamation of surface mining activities, if that delay will allow underground mining activities to be conducted to ensure both maximum practical recovery of coal resources and to avoid multiple future disturbances of surface lands or waters.

(c) Application contents for variances.

Any person who desires to obtain a variance under this Section shall file with the regulatory authority complete applications for both the surface mining activities and underground mining activities which are to be combined. The mining and reclamation operation plans for these permits shall contain appropriate narratives, maps and plans, which--

(1) Show why the proposed underground mining activities are necessary or desirable to assure maximum practical recovery of coal;

(2) Show how multiple future disturbances of surface lands or waters will be avoided;

(3) Identify the specific surface areas for which a variance is sought and the particular Sections of the Act, these regulations, and the regulatory program from which a variance is being sought;

(4) Show how the activities will comply with 30 CFR 818 and other applicable requirements of the regulatory program;

(5) Show why the variance sought is necessary for the implementation of the proposed underground mining activities;

(6) Provide an assessment of the adverse environmental consequences and damages, if any, that will result if the reclamation of surface mining activities is delayed; and,

(7) Show how off-site storage of spoil will be conducted to comply with the requirements of the Act, 30 CFR 816.71-816.73, and the regulatory program.

(d) Issuance of permit.

A permit incorporating a variance under this Section may be issued by the regulatory authority, if it first finds, in writing, upon the basis of a complete application filed in accordance with this Section, that--

(1) The applicant has presented, as part of the permit application, specific, feasible plans for the proposed underground mining activities;

(2) The proposed underground mining activities are necessary or desirable to assure maximum practical recovery of the mineral resource and will avoid multiple future disturbances of surface land or waters;

(3) The applicant has satisfactorily demonstrated that the applications for the surface mining activities and underground mining activities conform to the requirements of the regulatory program and that all other permits necessary for the underground mining activities have been issued by the appropriate authority;

(4) The surface area of surface mining activities proposed for the variance have been shown by the applicant to be necessary for implementing the proposed underground mining activities;

(5) No substantial adverse environmental damage, either on-site or off-site, will result from the delay in completion of reclamation otherwise required by Section 515(b)(16) of the Act, Part 816 of this Chapter, and the regulatory program.

(6) The operations will, insofar as a variance is authorized, be conducted in compliance with the requirements of 30 CFR 818 and the regulatory program;

(7) Provisions for off-site storage of spoil will comply with the requirements of Section 515(b)(22) of the Act, 30 CFR 816.71-816.73 and the regulatory program;

(8) Liability under the performance bond required to be filed by the applicant with the regulatory authority pursuant to Subchapter J of this Chapter and the regulatory program shall be for the duration of the underground mining activities and until all requirements of Subchapter J and the regulatory program have been complied with; and,

(9) The permit for the surface mining activities contains the following specific conditions:

(i) Delineating the particular surface areas for which a variance is authorized;

(ii) Identifying the particular requirements of 30 CFR 818 and the regulatory program which are to be complied with, in lieu of the otherwise applicable provisions of Section 515(b)(16) of the Act, 30 CFR 816, and the regulatory program; and

(iii) Providing a detailed schedule for compliance with the particular requirements of Part 818 and the regulatory program identified under paragraph (d)(9)(ii) of this Section.

(e) Review of permits containing variances.

Variances granted under permits issued under this Section shall be reviewed by the regulatory authority no later than 3 years from the dates of issuance of the permit and any permit renewals.

§785.19

Surface coal mining and reclamation operations on areas or adjacent to areas including alluvial valley floors in the arid or semi-arid regions of the country.

(a) Scope. This section applies to each person who conducts or intends to conduct surface coal mining and reclamation operations which may affect alluvial valley floors in the arid or semi-arid regions of the United States.

(b) No person shall engage in surface coal mining and reclamation operations subject to this Section, except under a

permit issued by the regulatory authority in accordance with this Section.

(c) Pre-application reconnaissance investigation.

(1) Before applying for a permit to conduct, or before conducting surface coal mining and reclamation operations within a valley holding a stream or in a location where the adjacent area includes any stream in the arid or semi-arid regions of the United States the applicant shall either affirmatively demonstrate, based on available data, the presence of an alluvial valley floor, or submit to the regulatory authority the results of a field investigation of the proposed mine plan area and adjacent area. The field investigations shall include sufficiently detailed geologic, hydrologic, land use, soils, and vegetation studies on areas required to be investigated by the regulatory authority, after consultation with the applicant, to enable the regulatory authority to make a determination as to the existence of an alluvial valley floor in the proposed mine plan area or adjacent area. Studies performed during the investigation by the applicant shall include an appropriate combination, adapted to site-specific conditions, of--

(i) Mapping of unconsolidated stream-laid deposits holding streams including, but not limited to, geologic maps of unconsolidated deposits, and stream-laid deposits, maps of streams, delineation of surface watersheds and directions of shallow ground water flows through and into the unconsolidated deposits, topography showing local and regional terrace levels, and topography of terraces, flood plains and channels showing surface drainage patterns.

(ii) Mapping of all lands included in the area in accordance with this paragraph and subject to agricultural activities, showing the area in which different types of agricultural lands, such as flood irrigated lands, pasture lands and undeveloped rangelands, exist, and accompanied by measurements of vegetation in terms of productivity and type.

(iii) Mapping of all lands that are currently or were historically flood irrigated, showing the location of each diversion structure, ditch, dam and related reservoir, irrigated land, and topography of those lands.

(iv) Documentation that areas identified in this paragraph are, or are not, subirrigated, based on ground water monitoring data, representative water quality, soil moisture measurements, and measurements of rooting depth, soil mottling, and water requirements of vegetation.

(v) Documentation, based on representative sampling, that areas identified under this paragraph are, or are not, flood irrigable, based on streamflow, water quality, water yield, soils measurements, and topographic characteristics.

(vi) Analysis of a series of aerial photographs, including color infrared imagery flown at a time of year to show any late summer and fall differences between upland and valley floor vegetative growth and of a scale adequate for reconnaissance identification of areas that may be alluvial valley floors.

(2) Based on the investigations conducted under 30 CFR 785.19(c)(1), the regulatory authority shall make a determination of the extent of any alluvial valley floors within the study area and whether any stream in the study area may be excluded from further consideration as lying within an alluvial valley floor. The regulatory authority shall determine that an alluvial valley floor exists if it finds that--

(i) Unconsolidated streamlaid deposits holding streams are present; and,

(ii) There is sufficient water to support agricultural activities as evidenced by:

(A) The existence of flood irrigation in the area in question or its historical use;

(B) The capability of an area to be flood irrigated, based on stream-flow water yield, soils, water quality, and topography; or,

(C) Subirrigation of the lands in question, derived from the ground water system of the valley floor.

(d) Application contents for operations affecting designated alluvial valley floors.

(1) If land within the proposed permit area or adjacent area is identified as an alluvial valley floor and the proposed mining operation may affect an alluvial valley floor or waters that supply alluvial valley floors, the applicant shall submit a complete application for the proposed mining and reclamation operations, to be used by the regulatory authority, together with other relevant information, including the information required by subsection (c) of this section as a basis for approval or denial of the permit. The complete application shall include detailed surveys and baseline data required by the regulatory authority for a determination of--

(i) The characteristics of the alluvial valley floor which are necessary to preserve the essential hydrologic functions during and after mining;

(ii) The significance of the area to be affected to agricultural activities;

(iii) Whether the operation will cause, or presents an unacceptable risk of causing, material damage to the quantity or quality of surface or ground waters that supply the alluvial valley floor;

(iv) The effectiveness of proposed reclamation; and
(v) Specific environmental monitoring required to ensure that the essential hydrologic functions are preserved.

(2) Information required under this paragraph shall include, but not be limited to--

(i) Geologic data, including geologic structure, and surficial geologic maps, and geologic cross-sections;

(ii) Soils and vegetation data, including a detailed soil survey and chemical and physical analyses of soils, a vegetation map and narrative descriptions of quantitative and qualitative surveys, and land use data, including an evaluation of crop yields;

(iii) Surveys and data required under this paragraph for areas-designated as alluvial valley floors because of their flood irrigation characteristics shall also include, at a minimum, surface hydrologic data, including streamflow, runoff, sediment yield, and water quality analyses describing seasonal variations over at least 1 full year, field geomorphic surveys and other geomorphic studies;

(iv) Surveys and data required under this paragraph for areas designated as alluvial valley floors because of their subirrigation characteristics, shall also include, at a minimum, geohydrologic data including observation well establishment for purposes of water level measurements, ground water contour maps, testing to determine aquifer characteristics that affect waters supplying the alluvial valley floors, well and spring inventories, and water quality analyses describing seasonal variations over at least 1 full year, and physical and chemical analysis of overburden to determine the effect of the proposed mining and reclamation operations on water quality and quantity;

(v) Plans showing how the operation will avoid, during mining and reclamation, interruption, discontinuance or preclusion of farming on the alluvial valley floors unless the premining land use has been undeveloped rangeland which is not significant to farming and will not materially damage the quantity or quality of water in surface and ground water systems that supply alluvial valley floors;

(vi) Maps showing farms that could be affected by the mining and, if any farm includes an alluvial valley floor, statements of the type and quantity of agricultural activity performed on the alluvial valley floor and its relationship to the farm's total agricultural activity including an economic analysis.

(vii) Such other data as the regulatory authority may require.

(3) The surveys required by this paragraph should identify those geologic, hydrologic, and biologic characteristics of the alluvial valley floor necessary to support the essential hydrologic functions of an alluvial valley floor. Characteristics which support the essential hydrologic functions and which must be evaluated in a complete application include, but are not limited to:

(i) Characteristics supporting the function of collecting water which include, but are not limited to--

(A) the amount and rate of runoff and a water balance analysis, with respect to rainfall, evapotranspiration, infiltration and ground water recharge;

(B) the relief, slope, and density of the network of drainage channels;

(C) the infiltration, permeability, porosity and transmissivity of unconsolidated deposits of the valley floor that either constitute the aquifer associated with the stream or lie between the aquifer and the stream; and

(D) other factors that affect the interchange of water between surface streams and ground water systems, including the depth to ground water, the direction of ground water flow, the extent to which the stream and associated alluvial ground water aquifers provide recharge to, or are recharged by bedrock aquifers.

(ii) Characteristics supporting the function of storing water which include, but are not limited to--

(A) surface roughness, slope, and vegetation of the channel, flood plain, and low terraces that retard the flow of surface waters;

(B) porosity, permeability, water-holding capacity, saturated thickness and volume of aquifers associated with streams, including alluvial aquifers, perched aquifers, and other water bearing zones found beneath valley floors; and

(C) moisture held in soils or the plant growth medium within the alluvial valley floor, and the physical and chemical properties of the subsoil that provide for sustained vegetation growth or cover during extended periods of low precipitation.

(iii) Characteristics supporting the function of regulating the flow of water which include, but are not limited to--

(A) the geometry and physical character of the valley, expressed in terms of the longitudinal profile and slope of the valley and the channel, the sinuosity of the channel, the cross-section, slopes and proportions of the channels, flood plains and low terraces, the nature and stability of the stream banks and the vegetation established in the channels and along the stream banks and flood plains;

(B) the nature of surface flows as shown by the frequency and duration of flows of representative magnitude including low flows and floods; and

(C) the nature of interchange of water between streams, their associated alluvial aquifers and any bedrock aquifers as shown by the rate and amount of water supplied by the stream to associated alluvial and bedrock aquifers (i.e., recharge) and by the rates and amounts of water supplied by aquifers to the stream (i.e., baseflow);

(iv) Characteristics which make water available and which include, but are not limited to--

(A) the presence of land forms including flood plains and terraces suitable for agricultural activities;

(e) (1) No permit or permit revision application for surface coal mining and reclamation operations on lands located west of the one hundredth meridian west longitude,

shall be approved by the regulatory authority, unless the application demonstrates and the regulatory authority finds in writing, on the basis of information set forth in the application that--

(i) The proposed operations would not interrupt, discontinue, or preclude farming on an alluvial valley floor, unless the premining land use has been undeveloped range land which is not significant to farming on the alluvial valley floor, or unless the area of an affected alluvial valley floor is small and provides, or may provide, negligible support for production of one or more farms; provided, however, this subparagraph does not apply to those lands which were identified in a reclamation plan approved by the State prior to August 3, 1977 for any surface coal mining and reclamation operation that, in the year preceding August 3, 1977:

(A) Produced coal in commercial quantities and was located within or adjacent to alluvial valley floors, or

(B) Obtained specific permit approval by the State regulatory authority to conduct surface coal mining and reclamation operations within an alluvial valley floor.

(ii) The proposed operations would not materially damage the quantity and quality of water in surface and underground water systems that supply those alluvial valley floors which are:

(A) Included in clause (1)(i) of this paragraph (e); or

(B) Outside the permit area of an existing or proposed surface coal mining operation.

(iii) The proposed operations would be conducted in accordance with 30 CFR 822 and all other applicable requirements of the Act, this chapter and the Regulatory Program; and,

(iv) Any change in the land use of the lands covered by the proposed mine plan area from its premining use in or adjacent to alluvial valley floors will not interfere with or preclude to establishment of the essential hydrologic functions of the alluvial valley floor.

(2) The significance of the impact of the proposed operations on farming will be based on the relative importance of the vegetation and water of the developed grazed or hayed alluvial valley floor area to the farm's production, or any more stringent criteria established by the regulatory authority as suitable for site-specific protection of agricultural activities in alluvial valley floors. The effect of the proposed operations on farming will be concluded to be significant, if they would remove from production, over the life of the mine, a proportion of the farm's production that would decrease the expected annual income from agricultural activities normally conducted at the farm.

(3) Criteria for determining that material damage would occur include, but are not limited to--

(i) Potential increases in the concentration of total dissolved solids of waters supplied to an alluvial valley floor, as measured by specific conductance in millimos, to levels above the threshold value at which crop yields decrease, as specified in Maas and Hoffman, "Crop Salt Tolerance--Current Assessment," Table 1, "Salt Tolerance of Agricultural Crops", unless the applicant demonstrates compliance with subpapagraph (ii).

(A) Salt tolerances for agricultural crops have been published by Maas, E.V. and G.J. Hoffman, in a paper titled "Crop Salt Tolerance - Current Assessment" contained in *The Journal of Its Irrigation and Drainage Division*, American Society of Civil Engineers, pages 115 through 134, June, 1977. Table 1, giving threshold salinity values is presented on pages 22 through 125.

(B) This publication is hereby incoporated by reference as it exists on the date of adoption of this Part. Notices of changes made to this publication will be periodically published by the Office of Surface Mining in the Federal Register. Persons conducting surface mining and reclamation operations in or near alluvial valley floors and other interested persons should obtain a copy of this publication. The Maas and Hoffman publication is on file and available for inspection at the OSM Central Office, U. S. Department of Interior, South Interior Building, Washington, D.C. 20240, at each OSM Regional Office, and at the central office of State Regulatory Authorities located west of the 100th meridian, west longitude. Copies of the publication may also be obtained by written request to the above locations. Incorporation by reference provisions approved by the Director of the Federal Register on _____.

(ii) Potential increases in the concentration of total dissolved solids of waters supplied to an alluvial valley floor in excess of those incorporated by reference in subparagraph (i) shall not be allowed unless the applicant demonstrates, through testing related to the production of crops grown in the locality that the proposed operations, will not cause increases that will result in crop yield decreases.

(iii) For types of vegetation not listed in Maas and Hoffman as specified by the regulatory authority, based upon consideration of observed correlation between total dissolved solid concentrations in water and crop yield declines, taking into account the accuracy of the correlations.

(iv) Potential increases in the average depth to water saturated zones (during the growing season) located within the root zone of the alluvial valley floor that would reduce the amount of subirrigation land compared to pre-mining conditions;

(v) Potential decreases in surface flows that would reduce the amount of irrigable land compared to pre-mining conditions; and

(vi) Potential changes in the surface or ground water systems that reduce the area available to agriculture as a result of flooding or increased saturation of the root zone.

(4) For the purposes of this paragraph, a farm is one or more land units on which agricultural activities are conducted. A farm is generally considered to be the combination of land units with acreage and boundaries in existence prior to August 3, 1977 or, if established after August 3, 1977, with those boundaries based on enhancement of the farm's agricultural productivity and not related to surface coal mining operations.

§785.20
Augering.

(a) This Section applies to any person who conducts or intends to conduct surface coal mining and reclamation operations utilizing augering operations.

(b) Any application for a permit for operations covered by this Section shall contain, in the mining and reclamation operation plan a description of, the augering methods to be used and the measures to be used to comply with 30 CFR 819.

(c) No permit shall be issued for any operations covered by this Section, unless the regulatory authority finds, in writing, that in addition to meeting all other applicable requirements of this Subchapter, the operation will be conducted in compliance with 30 CFR 819.

§785.21

Coal processing plants or support facilities not located within the permit area of a specified mine.

(a) This Section applies to any person who conducts or intends to conduct surface coal mining and reclamation operations utilizing coal processing plants or support facilities not within a permit area of a specific mine. Any person who operates such a processing plant or support facility shall have obtained a permit from the regulatory authority under the regulatory program in accordance with the requirements of this Section.

(b) Any application for a permit for operations covered by this Section shall contain in the mining and reclamation plan, specific plans, including descriptions, maps and cross-sections of the construction, operation, maintenance and removal of the processing plants and associated support facilities. The plan shall demonstrate that those operations will be conducted in compliance with 30 CFR 827.

(c) No permit shall be issued for any operation covered by this Section, unless the regulatory authority finds, in writing, that, in addition to meeting all other applicable requirements of this Subchapter, the operations will be conducted in compliance with the requirements of 30 CFR 827.

§785.22
In situ processing activities.

(a) This Section applies to any person who conducts or intends to conduct surface coal mining and reclamation operations utilizing in situ processing activities.

(b) Any application for a permit for operations covered by this Section shall be made according to all requirements of this Subchapter applicable to underground mining activities. In addition, the mining and reclamation operations plan for operations involving in situ processing activities shall contain information establishing how those operations will be conducted in compliance with the requirements of 30 CFR 828, including--

(1) Delineation of proposed holes and wells and production zone for approval of the regulatory authority;

(2) Specifications of drill holes and casings proposed to be used;

(3) A plan for treatment, confinement or disposal of all acid-forming, toxic-forming or radioactive gases, solids, or liquids constituting a fire, health, safety or environmental hazard caused by the mining and recovery process; and

(4) Plans for monitoring surface and ground water and air quality, as required by the regulatory authority.

(c) No permit shall be issued for operations covered by this Section, unless the regulatory authority first finds, in writing, upon the basis of a complete application made in accordance with paragraph (b) of this Section, that the operation will be conducted in compliance with all requirements of this Subchapter relating to underground mining activities, and 30 CFR 817 and 828.

PART 786-- REVIEW, PUBLIC PARTICIPATION, AND APPROVAL OR DISAP OF PERMIT APPLICATIONS AND PERMIT TERMS AND CONDITIONS

Sec.

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Authority : Secs. 102, 201, 501, 503, 505, 506, 507, 508, 509, 510, 511, 513, 514, 515, 516, 517, and 522, Pub. L. 95-87 (30 U.S.C. Sections 1201, 1202, 1211, 1251, 1253, 1254, 1255, 1256, 1257, 1258, 1259, 1260, 1261, 1263, 1264, 1265, 1266, 1267, and 1272).

§786.1
Scope.

This part establishes the minimum requirements under the regulatory program for the Secretary's approval of the provisions of regulatory programs for--

(a) Public participation in the permit process;
(b) The review of permit application and decisions on these applications by the regulatory authority; and,
(c) Approval or disapproval of permits to conduct surface coal mining and reclamation operations and for the terms and conditions of permits issued.

786.2 Objectives.

The objectives of this Part are to--

(a) Provide for the broad and effective public participation in the review, issuance or denial of permits;
(b) Ensure prompt and effective review of each permit application by the regulatory authority; and,
(c) Provide the minimum requirements for the terms and conditions of permits issued and the criteria for approval or denial of a permit.

786.4 Responsibilities.

(a) The State regulatory authority has the responsibility to approve or disapprove permits under an approved State program. The Regional Director has the responsibility to approve or disapprove permits under a Federal program.
(b) The regulatory authority and persons applying for permits under regulatory programs shall involve the public throughout the permit process of regulatory programs.
(c) The regulatory authority shall assure implementation of the requirements of this Part under regulatory programs.
(d) The applicant shall provide all information in a complete permit application for review by the regulatory authority in accordance with this Part and a regulatory program.

786.5 Definitions.

As used in 30 CFR 786.17(d) and 786.19(i)--

Willful violation means an act or omission which violates the Act, State, or Federal laws or regulations or individual permit conditions, committed by a person who intends the result which actually occurs.

Irreparable damage to the environment means any damage to the environment that cannot be or has not been corrected by actions of the applicant.

§786.11
Public notices of filing of permit applications.

(a) An applicant for a permit shall place an advertisement in a local newspaper of general circulation in the locality of the proposed surface coal mining and reclamation operations at least once a week for four consecutive weeks. The applicant shall place the advertisement in the newspaper at the same time the complete permit application is filed with the regulatory authority. The advertisement shall contain, at a minimum, the following information:
(1) The name and business address of the applicant; and,
(2) A map or description which shall--

(i) Clearly show or describe towns, rivers, streams, or other bodies of water, local landmarks, and any other information including routes, streets, or roads and accurate distance measurements necessary to allow local residents to readily identify the proposed permit area;

(ii) Clearly show or describe the exact location and boundaries of the proposed permit area;

(iii) State the name of the U.S. Geological Survey 7.5-minute quadrangle map(s) which contain the area shown or described; and

(iv) If a map is used, indicate the north point.

(3) The location where a copy of the application is available for public inspection under paragraph (c) of this Section; and

(4) The name and address of the regulatory authority to which written comments, objections, or requests for informal conferences on the application may be submitted under Section 786.14.

(5) If an applicant seeks a permit to mine within 100 feet of the outside right-of-way of a public road or to relocate a public road, a concise statement describing the public road, the particular part to be relocated, where the relocation is to occur, and the duration of the relocation.

(b) Upon receipt of a complete application for a permit, the regulatory authority shall issue written notification of--

(1) The applicant's intention to surface mine a particularly described tract of land;

(2) The application number;

(3) Where a copy of the application may be inspected; and,

(4) Where comments on the application may be submitted under Section 786.12 of this Part.

(c) The written notifications shall be sent to--

(1) Federal, State and local government agencies with jurisdiction over or an interest in the area of the proposed operations, including, but not limited to, general governmental entities and fish and wildlife and historic preservation agencies;

(2) Governmental planning agencies with jurisdiction to act with regard to land use, air, or water quality planning in the area of the proposed operations;

(3) Sewage and water treatment authorities and water companies, either providing sewage or water services to users in the area of the proposed operations or having water sources or collection, treatment, or distribution facilities located in these areas; and

(4) The Federal or State Governmental agencies with authority to issue all other permits and licenses needed by the applicant in connection with operations proposed in the application.

(d) (1) The applicant shall make a full copy of his complete application for a permit available for the public to inspect and copy. This shall be done by filing a copy of the application submitted to the regulatory authority with the recorder at the courthouse of the county where the mining is proposed to occur, or if approved by the regulatory authority, at another equivalent public office, if it is determined that that office will be more accessible to local residents than the county courthouse.

(2) The applicant shall file the copy of the complete application under paragraph (d)(1) of this Section by the first date of newspaper advertisement of the application. The applicant shall file any subsequent revision of the application with the public office at the same time the revision is submitted to the regulatory authority.

786.12 Opportunity for submission of written comments on permit applications.

(a) Written comments on permit applications may be submitted to the regulatory authority by the public entities to whom notification is provided under Section 786.11(b), with respect to the effects of the proposed mining operations on the environment within their area of responsibility.

(b) These comments shall be submitted to the regulatory authority in the manner and within the reasonable time provided for in the regulatory program.

(c) The regulatory authority shall immediately transmit a copy of all such comments for filing and public inspection at the public office where the applicant filed a copy of the application for permit under Section 786.11(d). A copy shall also be transmitted to the applicant.

786.13 Right to file written objections.

(a) Any person whose interests are or may be adversely affected or an officer or head of any Federal, State, or local government agency or authority shall have the right to file written objections to an initial or revised application for a permit with the regulatory authority, within 30 days after the last publication of the newspaper notice required by Section 786.11(a).

(b) The regulatory authority shall, immediately upon receipt of any written objections--

(1) Transmit a copy of them to the applicant; and,

(2) File a copy for public inspection at the public office where the applicant filed a copy of the application for permit under Section 786.11(d).

786.14 Informal conferences.

(a) Procedure for requests. Any person, whose interests are or may be adversely affected by the issuance of the permit, or the officer or head of any Federal, State or local government agency or authority may, in writing, request that the regulatory authority hold an informal conference on any application for a permit. The request shall--

(1) Briefly summarize the issues to be raised by the requestor at the conference;

(2) State whether the requestor desires to have the conference conducted in the locality of the proposed mining operations;

(3) Be filed with the regulatory authority not later than 30 days after the last publication of the newspaper advertisement placed by the applicant under Section 786.11(a).

(b) Except as provided in (c) below, if an informal conference is requested in accordance with paragraph (a) of this Section, the regulatory authority shall hold an informal conference within a reasonable time following the receipt of the request. The informal conference shall be conducted according to the following:

(1) If requested under paragraph (a)(2) of this Section, it shall be held in the locality of the proposed mining.

(2) The date, time and location of the informal conference shall be advertised by the regulatory authority in a newspaper of general circulation in the locality of the proposed mine at least two weeks prior to the scheduled conference.

(3) If requested, in writing, by a conference requestor in a reasonable time prior to the conference, the regulatory authority may arrange with the applicant to grant parties to the conference access to the mine plan area for the purpose of gathering information relevant to the conference.

(4) The requirements of Section 5 of the Administration Procedures Act, as amended (5 U.S.C. 554), shall not apply to the conduct of the informal conference. The conference shall be conducted by a representative of the regulatory authority, who may accept oral or written statements and any other relevant information from any party to the conference. An electronic or stenographic record shall be made of the

conference proceeding, unless waived by all the parties. The record shall be maintained and shall be accessible to the parties of the conference until final release of the applicant's performance bond pursuant to Subchapter J.

(c) If all parties requesting the informal conference stipulate agreement before the requested informal conference and withdraw their request, the informal conference need not be held.

(d) Informal conferences held in accordance with this Section may be used by the regulatory authority as the public hearing required under 30 CFR 761.12(d) on proposed uses or relocation of public roads.

786.15 Public availability of information in permit applications on file with the regulatory authority.

(a) Information contained in permit applications on file with the regulatory authority shall be open upon written request for public inspection and copying at reasonable times.

(1) Information pertaining to coal seams, test borings, core samplings, or soil samples in permit applications shall be made available for inspection and copying to any person with an interest which is or may be adversely affected; and

(2) Information in permit applications which pertains only to the analysis of the chemical and physical properties of the coal to be mined (excepting information regarding mineral or elemental contents of such coal, which are potentially toxic in the environment) shall be kept confidential and not made a matter of public record; and

(3) Information in the reclamation plan portions of the application, which is required to be filed with the regulatory authority only under Section 508 of the Act and which is not on public file pursuant to State law, shall be held in confidence by the regulatory authority upon the written request of the applicant.

(b) The regulatory authority shall provide for procedures to maintain information required to be kept confidential under paragraph (a) separately from other portions of the permit application. This information shall be clearly identified by the applicant and submitted separately from other portions of the application.

786.17 Review of permit applications.

(a)(1) The regulatory authority shall review the complete application and written comments, written objections submitted, and records of any informal conference held under 30 CFR Part 786.12-786.14.

(2) The regulatory authority shall determine the adequacy of the fish and wildlife plan, submitted pursuant to 30 CFR 780.15 or 30 CFR 784.20, in consultation with State and Federal fish and wildlife management and conservation agencies having responsibilities for the management and protection of fish and wildlife or their habitats which may be affected by the proposed surface coal mining and reclamation operations.

(b) If the regulatory authority decides to approve the application, it shall require that the applicant file the performance bond or provide other equivalent guarantee before the permit is issued, in accordance with the provisions of Subchapter J of this Chapter.

(c) If the regulatory authority determines from either the schedule submitted as part of the application under 30 CFR 778.14(c) or 782.14(c), or from other available information, that any surface mining operation owned or controlled by the applicant is currently in violation of any law, rule, or regulation of the United States, or of any State law, rule or regulation enacted pursuant to Federal law or of any provision of the Act, pertaining to air or water environmental protection, the regulatory authority shall require the applicant, before the issuance of the permit, to either--

(1) Submit to the regulatory authority reviewing the application, proof which is satisfactory to the regulatory authority, department or agency which has jurisdiction over such violation, that the violation--

(i) Has been corrected, or

(ii) Is in the process of being corrected; or

(2) Establish to the regulatory authority reviewing such application that the applicant has filed and is presently pursuing, in good faith, a direct administrative or judicial appeal to contest the validity of that violation. If the Administrative or judicial hearing authority either denies a stay applied for in the appeal or affirms the violation, then any surface coal mining operations being conducted under a permit issued according to this subparagraph shall be immediately terminated, unless and until the provisions of subparagraph(1) above are satisfied.

(d) Before any final determination by the regulatory authority that the applicant, or the operator specified in the application, controls or has controlled mining operations with a demonstrated pattern of willful violation of the Act of such nature, duration, and with such resulting irreparable damage to the environment that indicates an intent not to comply with the provision of the Act, the applicant or operator shall be afforded an opportunity for an adjudicatory hearing on the determination as provided for in the regulatory program. Such hearing shall be conducted pursuant to section 789.11(d).

786.19 Criteria for permit approval or denial.

No permit or revision application shall be approved, unless the application affirmatively demonstrates and the regulatory authority finds, in writing, on the basis of information set forth in the application or from information otherwise available, which is documented in the approval and made available to the applicant, that--

(a) The permit application is accurate and complete and that all requirements of the Act, this Chapter, and the regulatory program have been complied with.

(b) The applicant has demonstrated that surface coal mining and reclamation operations, as required by the Act, this Chapter, and the regulatory program, can be feasibly accomplished under the mining and reclamation operations plan contained in the application.

(c) The assessment of the probable cumulative effect of all anticipated coal mining in the area on the hydrologic balance, as described in 30 CFR 780.21(c) or 784.14(c), has been made by the regulatory authority, and the operations proposed under the application have been designed to prevent damage to the hydrologic balance outside the proposed mine plan area.

(d) The proposed permit area is:

(1) Not included within an area designated unsuitable for surface coal mining operations under 30 CFR 764, 765 or 769; or

(2) Not within an area under study for designation as unsuitable for surface coal mining operations in an administrative proceeding begun under 30 CFR 764, 765, or 769,

unless the applicant demonstrates that before January 4, 1977 he has made substantial legal and financial commitments in relation to the operation for which he is applying for a permit; or,

(3) Not on any lands subject to the prohibition or limitations of 30 CFR 761.11(a), (f), or (g); or

(4) Not within 100 feet of the outside right-of-way line of any public road, except as provided for in 30 CFR 761.12(d); or

(5) Not within 300 feet from any occupied dwelling, except as provided for in 30 CFR 761.11(e) and 761.12(e).

(e) The proposed operations will not adversely affect any publicly-owned parks or places included or eligible for listing in the National Register of Historic Places, except as provided for in 30 CFR 761.11(c).

(f) For operations involving the surface mining of coal where the private mineral estate to be mined has been severed from the private surface estate, the applicant has submitted to the regulatory authority the documentation required under 30 CFR 778.15(b) or 782.15.

(g) The applicant has either--

(1) Submitted the proof required by Section 786.17(c)(1); or

(2) Made the demonstration required by Section 786.17(c)(2).

(h) The applicant has submitted proof that all reclamation fees required by Subchapter R of this Chapter have been paid.

(i) The applicant or the operator, if other than the applicant, does not control and has not controlled mining operations with a demonstrated pattern of willful violations of the Act of such nature, duration, and with such resulting irreparable damage to the environment as to indicate an intent not to comply with the provisions of the Act.

(j) Surface coal mining and reclamation operations to be performed under the permit will not be inconsistent with other such operations anticipated to be performed in areas adjacent to the proposed permit area.

(k) The applicant has submitted the performance bond or other equivalent guarantee required under Subchapter J and the regulatory program.

(l) The applicant has, with respect to both prime farmland and alluvial valley floors obtained either a negative determination or satisfied the requirements of 30 CFR 785.17 and 785.19.

(m) The proposed post-mining land use of the permit area has been approved by the regulatory authority in accordance with the requirements of 30 CFR 816.133 or 817.133.

(n) The regulatory authority has made all specific approvals required under Subchapter K of this Chapter.

786.21.
Criteria for permit approval or denial: Existing structures.

No application for a permit or revision which proposes to use an existing structure in connection with or to facilitate the proposed surface coal mining and reclamation operation shall be approved unless the applicant demonstrates and the regulatory authority finds in writing on the basis of information set forth in the complete application that--

(a) If the applicant proposes to use an existing structure in accordance with exemption provided in 30 CFR 701.11(c)(1)(i)--

(1) The structure meets the performance standards of Subchapter K of this Chapter; and

(2) No significant harm to the environment or public health or safety will result from use of the structure.

(b)(1) If the applicant proposes to use an existing structure in accordance with the exemption provided in 701.11(c)(1)(ii),

(i) The structure meets the performance standards of 30 CFR Subchapter B of this Chapter;

(ii) No significant harm to the environment or public health or safety will result from use of the structure; and

(iii) The performance standards of 30 CFR Subchapter B of this Chapter are at least as stringent as the performance standards of Subchapter K of this Chapter.

(2) If the regulatory authority finds that the structure meets the criteria of Subparagraphs (b)(1)(i) and (ii) of this Section but does not meet the criterion of subparagraph (b)(1)(iii) of this Section, (the regulatory authority shall require) the applicant to submit a compliance plan for modification or reconstruction of the structure and shall find prior to the issuance of the permit that--

(i) The modification or reconstruction of the structure will bring the structure into compliance with the performance standards of Subchapter K of this Chapter as soon as possible, but not later than six months after issuance of the permit;

(ii) The risk of harm to the environment or to public health or safety is not significant during the period of modification or reconstruction; and

(iii) The applicant will monitor the structure to determine compliance with the performance standards of Subchapter K of this Chapter.

(c) Should the regulatory authority find that the existing structure cannot be reconstructed without causing significant harm to the environment or public health or safety, the applicant will be required to abandon the existing structure. The structure shall not be used for or to facilitate surface coal mining operations after the effective date of issuance of the permanent regulatory program permit. Abandonment of the structure shall proceed on a schedule approved by the regulatory authority, in compliance with 30 CFR 816.132 or 817.132.

786.23 Permit approval or denial actions.

(a) The regulatory authority shall approve, require modification of, or deny all applications for permits under regulatory programs on the basis of--

(1) Complete applications for permits and revisions or renewals thereof;

(2) Public participation as provided for in this Part.

(3) Compliance with any applicable provisions of 30 CFR 785; and

(4) Processing and review of applications as required by this Part.

(b) The regulatory authority shall take action as required under paragraph (a) of this Section, within the following times--

(1) Initiation of regulatory programs. Except as provided for in subparagraph (b)(3) of this section and 30 CFR 771.13, a complete application submitted to the regulatory authority within the time required by 30 CFR 771.21(b)(1) shall be processed by the regulatory authority so that an application is approved or denied--

(i) Within eight months after the date of approval of a regulatory program, unless a State or its regulatory authority is specifically enjoined from submitting a State program, or the regulatory authority is specifically enjoined from implementing a regulatory program but in no case later than February 3, 1981; and,

(ii) If an informal conference has been held pursuant to 30 CFR 786.14, within 60 days from the close of the conference.

(2) Subsequent operation of regulatory programs. Except as provided for in Subparagraph (b)(3) of this section. A complete application submitted to the regulatory authority after the time required in 30 CFR 771.21(b)(1) and in accordance with 30 CFR 771.21(b)(2)-(4) shall be processed by the regulatory authority, so that an application is approved or denied within the following times:

(i) If an informal conference has been held under Section 786.14, within 60 days of the close of the conference; or

(ii) If no informal conference has been held under 30 CFR 786.14, then within a reasonable time after the receipt by the regulatory authority of the complete application. The regulatory authority shall determine the time for processing and shall establish provisions for the processing time in the regulatory program, taking into account--

(i) The time needed for proper investigation of the proposed permit and adjacent areas;

(ii) The complexity of the application; and

(iii) Whether written objections to or comments on the complete application have been filed with the regulatory authority.

(3) Notwithstanding any of the foregoing provisions of this Section, no time limit under the Act or this Section requiring the regulatory authority to act shall be considered expired from the time the regulatory authority initiates a proceeding under 30 CFR 786.17(d) until the final decision of the hearing body.

(c) If an informal conference is held under Section 786.14, the regulatory authority shall give its written findings to the permit applicant and to each person who is a party to the conference, approving, modifying or denying the application in whole, or in part, and stating the specific reasons therefor in the decision. A State regulatory authority shall simultaneously transmit a copy of those findings and any permit approved to the Regional Director.

(d) If no such informal conference has been held, the regulatory authority shall give its written findings to the permit applicant, approving, modifying or denying the application in whole, or in part, and stating the specific reasons in the decision. Simultaneously, the regulatory authority shall--

(1) Give a copy of its decision to:

(i) Each person and government official who filed a written objection or comment with respect to the application; and

(ii) The Regional Director together with a copy of any permit issued, if the regulatory authority is a state agency; and

(2) Publish a summary of its decision in a newspaper or similar periodical of general circulation in the general area of the proposed operation.

(e) Within 10 days after the granting of a permit, including the filing of the performance bond or other equivalent guarantee with complies with Subchapter J of this Chapter the regulatory authority shall notify the local government officials in the local political subdivision in which the area of land to be affected is located that a permit has been issued and shall describe the location of the lands within the permit area.

786.25 Permit terms.

(a) Each permit shall be issued for a fixed term not to exceed 5 years. A longer fixed permit term may be granted if--

(1) The application is full and complete for the specified longer term; and

(2) The applicant shows that a specified longer term is reasonably needed to allow the applicant to obtain necessary financing for equipment and the opening of the operation and this need is confirmed, in writing, by the applicant's proposed source for the financing.

(b) (1) A permit shall terminate, if the permittee has not begun the surface coal mining and reclamation operation covered by the permit within 3 years of the issuance of the permit.

(2) The regulatory authority may grant reasonable extensions of time for commencement of these operations, upon receipt of a written statement showing that such extensions of time are necessary, if--

(i) Litigation precludes the commencement or threatens substantial economic loss to the permittee, or

(ii) There are conditions beyond the control and without the fault or negligence of the permittee.

(3) With respect to coal to be mined for use in a synthetic fuel facility or specified major electric generating facility, the permittee shall be deemed to have commenced surface mining operations at the time that the construction of the synthetic fuel or generating facility is initiated.

(4) Extensions of time granted by the regulatory authority under this paragraph shall be specifically set forth in the permit and notice of the extension shall be made to the public.

(c) Permits may be suspended, revoked, or modified by the regulatory authority, in accordance with 30 CFR Part 736 and 30 CFR 785.13, 785.15, 785.16, 785.18 and 788.11 and Subchapter L of this Chapter.

786.27 Conditions of permits: General and right of entry.

Each permit issued by the regulatory authority shall ensure that--

(a) Except to the extent that the regulatory authority otherwise directs in the permit that specific actions be taken, the permittee shall conduct all surface coal mining and reclamation operations as described in the complete application; and,

(b) The permittee shall allow the authorized representatives of the Secretary, including, but not limited to, inspectors and fee compliance officers and the State regulatory authority, without advance notice or a search warrant, upon presentation of appropriate credentials, and without delay, to--

(1) Have the rights of entry provided for in 30 CFR 840.12 and 842.13; and,

(2) Under Federal programs, be accompanied by private persons for the purpose of conducting an inspection in accordance with 30 CFR 842, and the inspection is in response to an alleged violation reported to the regulatory authority by the private person.

(c) The permittee shall conduct surface coal mining and reclamation operations only on those lands specifically designated on the map submitted under 30 CFR 779 or 783 and approved for the term of the permit and which are subject to the performance bond or other equivalent guarantee in effect pursuant to Subchapter J.

786.29 Conditions of permits: Environment, public health and safety.

Each permit issued by the regulatory authority shall ensure and shall contain specific conditions requiring that the--

(a) Permittee shall take all possible steps to minimize any adverse impact to the environment or public health and safety resulting from noncompliance with any term or condition of the permit, including, but not limited to:

(1) Any accelerated or additional monitoring necessary to determine the nature and extent of noncompliance and the results of the noncompliance;

(2) Immediate implementation of measures necessary to comply; and

(3) Warning, as soon as possible after learning of such noncompliance, any person whose health and safety is in imminent danger due to the noncompliance.

(b) The permittee shall dispose of solids, sludge, filter backwash, or pollutants removed in the course of treatment or control of waters or emissions to the air in the manner required by Subchapter K of this Chapter, the regulatory program and which prevents violation of any other applicable State or Federal law.

(c) The permittee shall conduct its operations--

(1) In accordance with any measures specified in the permit as necessary to prevent significant, imminent environmental harm to the health or safety of the public; and,

(2) Utilizing any methods specified in the permit by the regulatory authority in approving alternative methods of compliance with the performance standards of the Act and the regulatory program in accordance with the provisions of the Act, Section 786.19(m) and Subchapter K.

I86 PART 787-- ADMINISTRATIVE AND JUDICIAL REVIEW OF DECISIONS BY REGULATORY AUTHORITY ON PERMIT APPLICATIONS

Sec.
787.1 Scope.
787.2 Objectives.

787.11 Administrative review.
787.12 Judicial review.

Authority: Secs. 102(i), 201, 501, 503, 504, 514, and 526, Pub. L. 95-87 (30 U.S.C. Sections 1202(i), 1211, 1251, 1253, 1254, 1264 and 1276).

§787.1
Scope.

This Part provides the minimum requirements for the Secretary's approval of regulatory program provisions for administrative and judicial review of coal exploration approval applications and permit decisions by the regulatory authority, or the failure of the regulatory authority to act on applications for coal exploration approval or permits.

§787.2
Objectives.

The objectives of this Part are to provide for timely and thorough review by administrative and judicial bodies under regulatory programs on decisions of and failures to act by regulatory authorities under this chapter.

§787.11
Administrative review.

(a) Within 30 days after the applicant or permittee is notified of the final decision of the regulatory authority concerning the application for a permit, revision or renewal thereof, permit or application for transfer, sale, or assignment of rights, or concerning an application for coal exploration under 30 CFR 776.14, the applicant, permittee or any person with an interest which is or may be adversely affected may request a hearing on the reasons for the final decision in accordance with this section.

(b) State programs.

(1) The regulatory authority shall commence the hearing within 30 days of such request. This hearing shall be of record, adjudicatory in nature, and no person who presided at an informal conference under 30 CFR 786.14 shall either preside at the hearing, or participate in the decision following the hearing, or in any administrative appeal therefrom.

(2) The regulatory authority may, under such conditions as it may prescribe, grant such temporary relief as it deems appropriate, pending final determination of the proceeding, if:

(i) All parties to the proceeding have been notified and given an opportunity to be heard on a request for temporary relief;

(ii) The person requesting that relief shows that there is a substantial likelihood that he or she will prevail on the merits of the final determination of the proceeding; and

(iii) The relief is not to affect adversely the public health or safety, or cause significant, imminent environmental harm to land, air or water resources; and

(iv) The relief sought is not the issuance of a permit where a permit has been denied, in whole or in part, by the regulatory authority.

(3) For the purpose of such hearing, the hearing authority may administer oaths and affirmations, subpoena witnesses or written or printed materials, compel attendance of witnesses or production of those materials, compel discovery, and take evidence, including, but not limited to, site inspections of the land to be affected and other surface coal mining and reclamation operations carried on by the applicant in the general vicinity of the proposed operations. A verbatim record of each public hearing required by this Section shall be made, and a transcript made available on the motion of any party or by order of the hearing authority. Ex parte contacts between representatives of the parties before the hearing authority and the hearing authority shall be prohibited.

(4) Within 30 days after the close of the record, the hearing authority shall issue and furnish the applicant, and each person who participated in the hearing, with the written findings of fact, conclusions of law, and order of the hearing authority with respect to the appeal.

(5) The burden of proof at such hearings shall be on the party seeking to reverse the decision of the regulatory authority.

(c) Federal programs and Federal Lands Programs.

All hearings on permits under a Federal program and Federal Lands Programs shall be of record and governed by 5 U.S.C. Section 554 and 43 C.F.R. Part 4.

§787.12
Judicial review.

(a) Any applicant or any person with an interest which is or may be adversely affected and who has participated in the administrative proceedings as an objector shall have the right to appeal as provided in paragraph (b) of this Section, if--

(1) The applicant or person is aggrieved by the decision of the hearing authority in an administrative review proceeding conducted pursuant to Section 787.11,; or,

(2) Either the regulatory authority or the hearing authority for administrative review under Section 787.11 fails to act within time limits specified in the Act, this Subchapter, or the regulatory program, whichever applies.

(b) (1) State programs. Action of the regulatory authority or hearing authority identified in paragraph (a) of this Section shall be subject to judicial review by a court of competent jurisdiction, as provided for in the State program, but the availability of such review shall not be construed to limit the operation of the rights established in Section 520 of the Act.

(2) Federal programs and Federal lands programs. The action of the regulatory authority or hearing authority identified in paragraph (a) of this section is subject to judicial review by the United States District Court for the district in which the surface coal mining and reclamation operations is or would be located, in the time and manner provided for in Section 526 (a)(2) and (b) of the Act. The availibility of such review shall not be considered to limit the operations of rights established in Section 520 of the Act.

PART 788-- PERMIT REVIEWS, REVISIONS, AND RENEWALS, AND TRANSF SALE, AND ASSIGNMENT OF RIGHTS GRANTED UNDER PERMITS

Sec.	
788.1	Scope.
788.2	Objectives.
788.3	Responsibilities.
788.5	Definitions.
788.11	Regulatory authority review of outstanding permits.
788.12	Permit revisions.
788.13	Permit renewals: General requirements.
788.14	Permit renewals: Applications.
788.15	Permit renewals: Terms.
788.16	Permit renewals: Approval or denials.
788.17	Transfer, assignment, or sale of permit rights: General requirements.
788.18	Transfer, assignment, or sale of permit rights: Obtaining approval.
788.19	Requirements for new permits for persons succeeding to rights granted under a permit.

Authority: Secs. 101, 102(i), 201, 501, 503, 504, 506, 507, 508, 509, 510, 511, 513, 514, 515, 516, 517, 522(e) and 526(f), Pub. L. 95-87 (30 U.S.C. Secs. 1202(i), 1211, 1251, 1253, 1254, 1256, 1257, 1258, 1259, 1260, 1261, 1263, 1264, 1265, 1266, 1272(e) and 1276(f)).

§788.1
Scope.

This Part establishes the minimum requirements for the Secretary's approval of regulatory program provisions for revisions to and affirmative periodic review of permits previously issued by the regulatory authority.

§788.2
Objectives.

The objectives of this Part are to provide procedures for the regulatory authority to review, revise, and renew permits under a regulatory program.

788.3 Responsibilities.

The regulatory authority shall--

(a) Ensure that permits are revised prior to changes in surface coal mining and reclamation operations;

(b) Ensure that all permits are regularly reviewed to determine that surface coal mining and reclamation operations under these permits are conducted in compliance with the Act, this Chapter, and the regulatory program;

(c) Effectively review and act on applications to renew existing permits, in a timely manner, to ensure that surface coal mining and reclamation operations continue, if they comply with the Act, this Chapter, and the regulatory program; and,

(d) Ensure that no person conducts surface coal mining and reclamation operations, through the transfer, sale, or assignment of rights granted under permits, without the prior approval of the regulatory program.

788.5 Definitions.

As used in Sections 788.17 through 788.19-

successor in interest means any person who succeeds to rights granted under a permit, by transfer, assignment, or sale of those rights.

transfer, assignment, or sale of rights means a change in ownership or other effective control over the right to conduct surface coal mining operation under a permit issued by the regulatory authority.

§788.11

Regulatory authority review of outstanding permits.

(a) (1) The regulatory authority shall review each permit issued and outstanding under an approved regulatory program during the term of the permit. This review shall occur not later than the middle of the permit term and as required by 30 CFR 785.13, 785.16, and 785.18.

(2) For permits of longer than five year terms, a review of the permit shall be no less frequent than the permit midterm or every five years whichever is more frequent.

(b) After this review, the regulatory authority may, by order, require reasonable revisions or modification of the permit provisions to ensure compliance with the Act, this chapter and the regulatory program.

(c) Copies of the decision of the regulatory authority shall be sent to the permittee.

(d) Any order of the regulatory authority requiring revision or modification of permits shall be based upon written findings and shall be subject to the provisions for administrative and judicial review of 30 CFR 787.

§788.12

Permit revisions.

(a) A revision to a permit shall be obtained--

(1) For changes in the surface coal mining or reclamation operations described in the original application and approved under the original permit when such changes constitute a significant departure from the method of conduct of mining or reclamation operations contemplated by the original permit. Each regulatory authority shall provide parameters to determine what changes shall constitute significant departures as used herein.

(2) When required by an order issued under 30 CFR 788.11;

(3) In order to continue operation after the cancellation or material reduction of the liability insurance policy, capability of self-insurance, performance bond, or other equivalent guarantee upon which the original permit was approved; or

(4) As otherwise required under the regulatory program.

(c) The application for revision shall be filed in accordance with the following:

(1) The permittee shall submit the application to the regulatory authority within the time provided for by 30 CFR 771.21(b)(4);

(2) The scale or extent of permit application information requirements and procedures, including notice and hearings, applicable to revision requests, shall be as provided in the particular regulatory program. Any application for a revision which proposes significant alterations in the operations described in the materials submitted in the application for the original permit under 30 CFR 778, 779, 780, 781, 782, 783, or 785 or in the conditions of the original permit, shall, at a minimum, be subject to the requirements of 30 CFR 786 and 787.

(d) The regulatory authority shall approve or disapprove the complete application for revision, in accordance with the requirements of 30 CFR 786, within a reasonable time as established in the particular regulations for the regulatory program.

(e) Any extensions to the area covered by a permit, except for incidental boundary revisions, shall be made by application for a new permit and shall not be approved under this Part.

§788.13

Permit renewal: General requirements.

(a) Any valid, existing permit issued pursuant to a regulatory program shall carry with it the right of successive renewal upon expiration of the term of the permit, in accordance with Sections 788.14-788.16. Successive renewal shall be available only for those areas which were specifically approved by the regulatory authority on the application for the existing permit as within the boundaries of the permit.

(b) Permit renewal shall not be available for conducting surface coal mining and reclamation operations on lands beyond the boundaries of the permit area approved under the existing permit. Approval of permits to conduct operations on these lands, including, but not limited to, any remainder of the mine plan area described in the application for the existing permit, shall be obtained in accordance with Section 788.14(b)(2).

§788.14

Permit renewals: Applications.

(a) Contents. Applications for renewals of a permit shall be made within the time prescribed by 30 CFR 771.21(b)(2). Renewal applications shall be in a form and with contents required by the regulatory authority under the regulatory program and in accordance with subparagraph (b)(2) of this Section, including at a minimum, the following:

(1) A statement of the name and address of the permittee, the term of the renewal requested, the permit number, and a description of any changes to the matters set forth in the original application for a permit or prior permit renewal;

(2) A copy of the newspaper notice and proof of publication of same under 30 CFR 786.11(a); and,

(3) Evidence that liability insurance policy or adequate self-insurance under 30 CFR 806.14 will be provided by the applicant for the proposed period of renewal.

(b) Processing and review.

(1) Complete applications for renewal shall be subject to the requirements of public notification and participation contained in 30 CFR 786.11, 12, 13 and 14.

(2) If a complete application for renewal of a permit includes a proposal to extend the mining and reclamation operation beyond the boundaries authorized in the existing permit, the portion of the complete application for renewal of a valid permit which addresses any new land areas shall be subject to the full standards applicable to new permit applications under the Act, 30 CFR 771, 778, 779, 780, 782, 783, 784, 785, 786, 787, 788, and 789, Subchapter J of this Chapter, and the regulatory program.

(3) If the surface coal mining reclamation operations authorized under the original permit were not subject to the standards contained in Sections 510(b)(5) (A) and (B) of the Act and Section 785.19 of this Subchapter, because the permittee complied with the exceptions to Section 510(b)(5) of the Act, the portion of the application for renewal of the permit which addresses any new land areas previously identified in the reclamation plan submitted pursuant to 30 CFR 780 or 784 for the original permit shall not be subject to the standards contained in Sections 501(b)(5) (A) and (B) of the Act and Section 785.19 of this Subchapter.

(4) Before finally acting to grant the permit renewal, the regulatory authority shall require any additonal performance bond needed by the permittee to comply with the requirements of 30 CFR 791.16(a)(4) to be filed with the regulatory authority.

§788.15
Permit renewals: Terms.

Any permit renewal shall be for a term not to exceed the period of the original permit established under 30 CFR 786.11.

§788.16
Permit renewals: Approval or denial.

(a) The regulatory authority shall, upon the basis of a complete application for renewal and completion of all procedures required under Sections 788.14-788.15, issue a renewal of a permit, unless it is established and written findings by the regulatory authority are made that--

(1) The terms and conditions of the existing permit are not being satisfactorily met;

(2) The present surface coal mining and reclamation operations are not in compliance with the environmental protection standards under the Act, Subchapter K of this Chapter, and the regulatory program;

(3) The requested renewal substantially jeopardizes the operator's continuing responsibility to comply with the Act, this Chapter and the regulatory program on existing permit areas;

(4) The operator has not provided evidence that any performance bond required to be in effect for the operations will continue in full force and effect for the proposed period of renewal, as well as any additional bond the regulatory authority might require pursuant to Subchapter J of this Chapter; or,

(5) Any additional revised or updated information required by the regulatory authority has not been provided by the applicant.

(b) In determining whether to approve or deny a renewal, the burden shall be on the opponents of renewal.

(c) The regulatory authority shall send copies of its decision to the applicant, any persons who filed objections to the renewal, and to any persons who were parties to any informal conference held on the permit renewal.

(d) Any person having an interest which is or may be adversely affected by the decision of the regulatory authority shall have the right to administrative and judicial review set forth in 30 CFR 787.

§788.18
Transfer, assignment or sale of permit rights: General requirements.

(a) No transfer, assignment, or sale of the rights granted under any permit issued pursuant to a regulatory program shall be made without the prior written approval of the regulatory authority, in accordance with Sections 788.17-788.19.

§788.18
Transfer, sale, or assignment of rights: Obtaining approval.

(a) Any person seeking to succeed by transfer, assignment, or sale to the rights granted by a permit issued under a regulatory program shall, prior to the date of such transfer, assignment or sale--

(1) Obtain the bond coverage of the original permittee by

(i) Obtaining transfer of the original bond;

(ii) Obtaining a written agreement with the original permittee and all subsequent successors in interest (if any) that the bond posted by the original permittee and all successors shall continue in force on all areas affected by the original permittee and all successors, and supplementing such previous bonding with such additional bond as may be required by the regulatory authority. If such an agreement is reached, the regulatory authority may authorize for each previous successor and the original permittee the release of any remaining amount of bond in excess of that required by the agreement;

(iii) Providing sufficient bond to cover the original permit in its entirety from inception to completion of reclamation operations; or

(iv) Such other methods as would provide that reclamation of all areas affected by the original permittee is assured under bonding coverage at least equal to that of the original permittee; and

(2) Provide the regulatory authority with an application for approval of such proposed transfer, assignment, or sale, including--

(i) The name and address of the existing permittee;

(ii) The name and address of the person proposing to succeed by such transfer, assignment or sale and the name and address of that person's resident agent;

(iii) For surface mining activities, the same information as is required by 30 CFR 778.13, 778.14, 778.15, 778.16(c), 778.18 and 778.19 for applications for new permits for those activities; or

(iv) For underground mining activities, the same information as is required by 30 CFR 782.13, 782.14, 782.15, 782.16(c), 782.18 and 782.19 for applications for new permits for those activities.

(3) Obtain the written approval of the regulatory authority for transfer, assignment, or sale of rights, according to paragraph (c) of this Section.

(b) (1) The person applying for approval of such transfer, assignment or sale of rights granted by a permit shall advertise the filing of the application in a newspaper of general circulation in the locality of the operations involved, indicating the name and address of the applicant, the original permittee, the number and particular geographic location of the permit, and the address to which written comments may be sent under this paragraph.

(2) Any person whose interests are or may be adversely affected, including, but not limited to, the head of any local, State or Federal government agency may submit written comments on the application for approval to the regulatory authority, within the time required by the regulations of the particular regulatory program.

(c) The regulatory authority may, upon the basis of the applicant's compliance with the requirements of paragraphs (a) and (b) of this Section, grant written approval for the transfer, sale, or assignment of rights under a permit, if it first finds, in writing, that--

(1) The person seeking approval will conduct the operations covered by the permit in accordance with the criteria specified in 30 CFR 785 and 786.15 and the requirements of the Act, this Chapter and the regulatory program;

(2) The applicant has submitted a performance bond or other guarantee as required by Subchapter J and at least equivalent to the bond or other guarantee of the original permittee; and

(3) The applicant will continue to conduct the operations involved in full compliance with the terms and conditions of the original permit, unless and until it has obtained a new permit in accordance with this Subchapter as required in Section 788.19.

788.19

Requirements for new permits for persons succeeding to rights granted under a permit.

(a) A successor in interest to a permittee who is able to obtain the bond coverage of the original permittee may continue surface coal mining and reclamation operations according to the approved mining and reclamation plan and permit of the original permittee.

(b) Pursuant to Section 788.18(c)(3), any successor in interest seeking to change the conditions of mining or reclamation operations, or any of the terms or conditions of the original permit shall--

(1) Make application for a new permit under Parts 771-787, if the change involves conducting operations outside the original permit area; or

(2) Make application for a revised permit under Section 788.12.

SUBCHAPTER J-- BOND AND INSURANCE REQUIREMENTS FOR SURFACE COA MINING AND RECLAMATION OPERATIONS

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PART 800--GENERAL REQUIREMENTS FOR BONDING OF SURFACE COAL MINING AND RECLAMATION OPERATIONS UNDER REGULATORY PROGRA

Sec.	
800.1	Scope.
800.2	Objective.
800.5	Definitions.
800.11	Requirement to file a bond.
800.12	Requirement to file a certificate of liability insura
800.13	Regulatory authority responsibilities.

Authority: Secs. 102, 201(c), 501(b), 503, 504, 507, 509, and 519, Pub. L. 95-87, 91 Stat. 448, 449, 468, 470, 471, 474, 479, 480 and 501 (30 U.S.C. 1201, 1211, 1251, 1253, 1254, 1257 1259, and 1269).

800.1 Scope.

This Part sets forth the minimum requirements for the Secretary's approval of regulatory program provisions for bonding and insuring surface coal mining and reclamation operations.

800.2 Objective.

The objective of this Part is to set forth the minimum requirements and responsibilities for filing and maintaining bonds and insurance for surface coal mining and reclamation operations under regulatory programs, in accordance with the Act.

800.5 Definitions.

Surety bond means an indemnity agreement in a sum certain payable to the regulatory authority executed by the permittee which is supported by the performance guarantee of a corporation licensed to do business as a surety in the State where the surface or underground coal mining operation subject to the indemnity agreement is located.

Collateral bond means an indemnity agreement in a sum certain payable to the regulatory authority executed by the permittee and which is supported by the deposit with the regulatory authority of cash, negotiable bonds of the United States, State or municipalities, negotiable certificates of deposit or an irrevocable letter of credit of any bank organized or authorized to transact business in the U.S.

Self-bond means an indemnity agreement in a sum certain payable to the regulatory authority executed by the permittee, and by each individual and business organization capable of influencing or controlling the investment or financial practices of the permittee by virtue of his authority as an officer or ownership of all or a significant part of the permittee, and supported by agreements granting the regulatory authority a security interest in real or personal property pledged to secure performance by the permittee.

Common-size comparative balance sheet means item amounts from a number of the permittee's or applicant's successive yearly balance sheets arranged side by side in a single statement followed by common-size percentages whereby: (1) the asset total is assigned a value of 100 percent; (2) the total of liabilities and owner equity is also assigned a value of 100 percent; and then (3) each individual asset, liability, and owner equity item is shown as a fraction of one of the 100 percent totals.

Common size comparative income statement means an operator's income statement amounts for a number of successive yearly periods arranged side by side in a single statement followed by common-size percentages whereby net sales are assigned a 100 percent value, and then each statement item is shown as a percentage of net sales.

Retained earnings means stockholder's equity that has arisen from retained assets from earnings in the business. This shall include only earnings from normal operations and not gains from such transactions as the sale of plant assets or investments.

Working capital means the excess of the operator's current assets over its current liabilities.

Current assets means cash and assets that are reasonably expected to be realized in cash or sold or consumed within one year.

Current liabilities means debts or other obligations that must be paid or liquidated within a short period of time, usually a year. This shall also include dividends payable on preferred stock within one year.

Current ratio means the relation of current assets to current liabilities.

Acid-test ratio means the relation of quick assets to current liabilities.

Quick assets means cash and current assets that can be quickly turned into cash.

Cash means (a) all cash items except cash (1) restricted by an agreement, or (2) described as earmarked for a particular purpose; and (b) short-term investments such as stocks, bonds, notes, and certificates of deposit, where the intent and ability to sell them in the near future is established by the operator.

Liquidity ratio means the relation of cash to current liabilities.

Asset ratio means the relation of total assets to total liabilities.

Return on Investment means the relation of net profit for the last yearly period to ending net worth.

Net worth means preferred and common stock, all surplus accounts, and retained earnings.

Net profit means the bottom line of the income statement after taxes, including taxes based on income, adjustments, all extra-ordinary income and expense, but before preferred and common stock dividends.

Capital assets means those assets such as land, buildings and equipment held for use in the production or sale of other assets or services.

800.11 Requirement to file a bond.

(a) After an application for a new, revised or renewed permit to conduct surface coal mining and reclamation operations has been approved under Subchapter G of this Chapter but before such permit is issued, the applicant shall file with the regulatory authority a performance bond payable to the regulatory authority. The performance bond will be conditioned upon the faithful performance of all the requirements of the Act, this Chapter, the regulatory program, and the provisions of the reclamation plan and permit. The amount, duration, form, conditions and terms of the performance bond shall conform to 30 CFR 805 and 806.

(b) An operator shall not disturb surface acreage or extend any underground shafts, tunnels or operations prior to receipt of approval from the regulatory authority of a performance bond covering the surface acreage to be affected.

(1) Liability on the performance bond shall cover all surface coal mining and reclamation operations to be conducted within the permit area during the life of the mine. After the amount of the bond has been determined for the permit area in accordance with 30 CFR Part 805, the permittee or applicant may either file:

(i) the entire performance bond required during the term of the permit; or

(ii) an incremental bond schedule and the new performance bond required for the first increment in the schedule.

(2) When the operator elects to "increment" the amount of the performance bond during the term of the permit, he shall identify the initial and successive incremental areas for bonding on the permit application map submitted for approval as provided in 30 CFR 780.14, and shall specify the proportion of the total bond amount required for the term of the permit which will be filed prior to commencing operations on each incremental area. The scheduled amount of each performance bond increment shall be filed in the sequence approved in the permit, and shall be filed with the regulatory authority at

least 30 days prior to the commencement of surface coal mining and reclamation operations in the next incremental area.

(c) The amount, duration, form, conditions and terms of the performance bond shall conform to 30 CFR 805 and 806.

800.12 Requirement to file a certificate of liability insurance.

Each applicant for a permit shall submit to the regulatory authority, as part of the permit application--

(a) A certificate issued by an insurance company authorized to do business in the United States. The amount, duration, form, conditions and terms of this insurance shall conform to 30 CFR 806.14; or,

(b) Evidence that it satisfies applicable State or Federal self-insurance requirements and that self-insurance for liability is otherwise consistent with 30 CFR 806.14.

800.13 Regulatory authority responsibilities.

(a) The regulatory authority shall prescribe and furnish the form for filing a performance bond.

(b) The regulatory authority shall prescribe terms and conditions for performance bonds and insurance by regulations which meet, at a minimum, the requirements of Parts 805 and 806.

(c) The regulatory authority shall determine the amount of the performance bond required for the permit area including adjustments to the initial amount from time-to-time as land acreages in the permit area are revised, or when other relevant conditions change according to the minimum requirements of Section 805.11(a).

(d) The regulatory authority may not accept a self-bond in lieu of a surety or collateral bond, unless the permittee meets the requirements of Section 806.11(b) and any additional requirements in the State or Federal program.

(e) The regulatory authority shall release the permittee from his bond and insurance requirements consistent with 30 CFR 807.

(f) The regulatory authority shall cause all or part of a bond to be forfeited consistent with 30 CFR 808.

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PART 805--AMOUNT AND DURATION OF PERFORMANCE BOND

Sec.
805.1 Scope.
805.11 Determination of bond amount.
805.12 Minimum amount.
805.13 Period of liability.
805.14 Adjustment of amount.

Authority: Secs. 102, 201(c), 501(b), 503, 504, 507, 508, 509, 510, 515, and 516, Pub. L. 95-87, 91 Stat. 448, 449, 468, 470, 471, 474, 478, 479, 480, 491, and 495 (30 U.S.C. 1201, 1211, 1251, 1253, 1254, 1257, 1258, 1259, 1260, 1265, and 1266).

805.1 Scope.

This Part sets forth the minimum requirements for the Secretary's approval of regulatory program provisions for determining the amounts and time periods of liability for performance bonds for surface coal mining and reclamation operations.

805.11 Determination of bond amount.

(a) The standard applied by the regulatory authority in determining the amount of performance bond shall be the estimated cost to the regulatory authority if it had to perform the reclamation, restoration and abatement work required of a person who conducts surface coal mining and reclamation operations under the Act, this Chapter, the regulatory program, and the permit. This amount shall be based on, but not be limited to--

(1) The estimated costs submitted by the permittee in accordance with 30 CFR 780.19 and 784.12.

(2) The additional estimated costs to the regulatory authority which may arise from applicable public contracting requirements or the need to bring personnel and equipment to the permit area after its abandonment by the permittee to perform reclamation, restoration, and abatement work.

(3) All additional estimated costs necessary, expedient, and incident to the satisfactory completion of the requirements identified in this paragraph.

(4) An additional amount based on factors of cost changes during the preceding 5 years for the types of activities associated with the reclamation to be performed; and

(5) Such other cost information as may be required by or available to the regulatory authority.

805.12 Minimum amount.

The amount of the bond for surface coal mining and reclamation operations shall be $10,000 at a minimum, for the entire area under one permit and be sufficient to assure performance of reclamation, restoration and abatement work required of a person who conducts surface coal mining and reclamation operations under the Act, this Chapter, the regulatory program, and the provisions of the permit, if the work had to be performed by the regulatory authority in the event of forfeiture.

805.13 Period of liability.

(a) At a minimum, liability under a bond shall continue until all reclamation, restoration and abatement work required of persons who conduct surface coal mining and reclamation operations under requirements of the Act, this Chapter, the regulatory program and the provisions of the permit have been met, and the permit terminated by release of the permittee from any further liability in accordance with 30 CFR Part 807.

(b) In addition to the requirement of paragraph (a) of this section, liability under the bond shall continue until the standards for measuring the success of revegetation are met as required by 30 CFR 816.116 and 817.116. The period of responsibility begins after the last year of augmented seeding, fertilizing, irrigation or other work. The period of responsibility shall continue in areas of more than 26.0 inches average annual precipitation, for not less than five years or in areas of 26 inches or less average annual precipitation, for not less than ten years. The period of responsibility shall begin again whenever augmented seeding, fertilizing, irrigation or other work is conducted on the site prior to bond release.

(c) If the regulatory authority approves a long-term intensive agricultural postmining land use, in accordance with 30 CFR 816.133, the applicable 5- or 10-year period of liability shall commence at the date of initial planting for such long-term intensive agricultural land use.

(d) The regulatory authority may, upon a written finding, after approving a long term intensive agricultural land use, grant an exception to the revegetation requirements of 30 CFR 816, but shall not grant exception to the period of liability in this Section.

805.14 Adjustment of amount.

(a) The amount of the bond shall be adjusted by the regulatory authority as the acreage in the permit area is revised, methods of mining operation change, standards of reclamation change, or when the cost of future reclamation changes. The regulatory authority shall notify the permittee of any proposed bond adjustment and provide the permittee an opportunity for an informal conference on the adjustment. The regulatory authority shall review each outstanding performance bond at the time that permit reviews are conducted under 30 CFR 788.11, and re-evaluate those performance bonds in accordance with the standards in Section 805.11.

(b) A permittee may request reduction of the required performance bond amount upon submission of evidence to the regulatory authority proving that the permittee's method of operation or other circumstances will reduce the maximum estimated cost to the regulatory authority to complete the reclamation responsibilites and therefore warrant a reduction of the bond amount. The request shall be considered as a request for partial bond release in accordance with the procedures of Part 807 of this Chapter.

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PART 806--FORM, CONDITIONS, AND TERMS OF PERFORMANCE BONDS AND LIABILITY INSURANCE

Sec.
806.1 Scope.
806.11 Form of the performance bond.
806.12 Terms and conditions of the bond.
806.13 Replacement of bonds.
806.14 Terms and conditions for liability insurance.

Authority: Secs. 102, 201(c), 501(b), 503, 504, 507(f), 509, 510, 515, 516 and 519, Pub. L. 95-87, 91 Stat. 448, 449, 468, 470, 471, 477, 479, 480, 486, 495, and 501 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1257, 1259, 1260, 1265, 1266, and 1269).

806.1 Scope.

This Part establishes the minimum standards for the Secretary's approval of regulatory program provisions for the form of the bond for surface coal mining and reclamation operations, and the terms and conditions applicable to bonds and liability insurance.

806.11 Form of the performance bond.

(a) The form for the performance bond shall be prescribed by the regulatory authority in accordance with this section. The regulatory authority shall allow for either:

(1) A surety bond, or

(2) A collateral bond.

(b) The regulatory authority may accept a self-bond from the applicant under the following conditions:

(1) The applicant shall designate the name and address of a suitable agent to receive service of process in the state where the surface coal mining operation is located.

(2) The applicant, or the applicant's parent organization in the event the applicant is a subsidiary corporation, has a net worth, certified by a certified public accountant, of no less than six times the total amount of self-bond obligations on all permits issued to the applicant in the United States for surface coal mining and reclamation operations.

(3) The applicant grants the regulatory authority a mortgage or security interest in real or personal property located in the state which shall have a fair market value equal to or greater than the obligation created under the indemnity agreement.

(4) The instrument creating such mortgage or security interest shall vest such interest in the regulatory authority so as to secure the right and power in the regulatory authority to immediately attach said property concurrent with the issuance of a notice of forfeiture under 30 CFR Part 808, and to sell or otherwise dispose of the property by a public or private transaction, and to establish the regulatory authority as the sole secured creditor with respect to such property so as to assure the regulatory authority of a preferred claim over all other creditors in case of bankruptcy. For classes of property with respect to which a preferred claim cannot be maintained against subsequent bona fide purchasers for value under the Uniform Commercial Code, the instrument shall require possession of the property by the regulatory authority.

The property subject to the security interest shall not be subject to any conflicting or prior security interest. The instrument creating the interest in real property shall be recorded as authorized for fee interests.

The instrument creating the security interest in personal property shall be recorded in accordance with and otherwise conform to the requirements of the Uniform Commercial Code for perfecting a security interest in the state. In order for the regulatory authority to evaluate the adequacy of the property offered to satisfy this requirement, the applicant shall submit a schedule of the real or personal property which will be pledged to secure the obligations under the indemnity agreement. The schedule shall include--

(i) A description of the property;

(ii) The value of the property. The property shall be valued at fair market value as determined by an appraisal conducted by an appraiser or appraisers appointed by the regulatory authority. The appraisal shall be expeditiously made, and a copy thereof furnished to the regulatory authority and the permittee. The reasonable expense of the appraisal shall be borne by the permittee; and

(iii) Proof of the mortgagor's possession of and title to the unencumbered real property within the state which is offered to secure the obligations under the bond. Such proof shall include--

(A) If the interest arises under a federal or state lease, a status report prepared by an attorney, satisfactory to the regulatory authority as disinterested and competent to so evaluate the asset, and an affidavit from the owner in fee establishing that the leasehold could be transferred to the regulatory authority upon forfeiture;

(B) If title is in fee, a title certificate or similar evidence of title and encumbrances prepared by an abstract office authorized to transact business within the State and satisfactory to the regulatory authority; and

(C) The property shall not include any lands in the process of being mined, reclaimed, or the subject of this application. The operator may offer any lands the bonds for which have been released. In addition, any land used as security shall not be mined while it is security.

(iv) Proof the person granting the security interest holds possession of and title to personal property within the State which is offered to secure the obligation of the permittee under the bond. Evidence of such ownership shall be submitted in that form satisfactory to the regulatory authority. The personal property offered shall not include--

(A) Property in which a security interest is held by any person;

(B) Goods which the operator sells in the ordinary course of his business;

(C) Fixtures;

(D) Securities which are not negotiable bonds of the U.S. Government or general revenue bonds of the State;

(E) Certificates of deposit which are not federally insured or where the depository is unacceptable to the regulatory authority.

(5) The applicant, or the applicant's parent organization in the event the applicant is a subsidiary corporation, shall have demonstrated to the satisfaction of the regulatory authority a history of financial solvency and continuous operation as a business entity for ten years prior to filing the application. For purposes of this subparagraph, such demonstration shall include a financial statement in sufficient detail to allow the regulatory authority to determine whether it is reasonable to predict from the ownership patterns and financial history of the applicant that it will be financially capable of completing all reclamation requirements throughout the life of the surface coal mining and reclamation operations. Such statement shall include at the minimum--

(i) Identification of operator by--

(A) For corporations, name, address, telephone number, state of incorporation, principal place of business, principal office in the state where the operation is located, the name, title and authority of persons signing application, and a statement of authority to do business in the state where the operation is located; and

(B) For all other forms of business enterprises, name address and telephone number and statement of how the enterprise is organized, law of the state under which it is formed, place of business, and relationship and authority of the person signing the application, and principal office in the State where the operation is located;

(ii) Estimated amount of bond likely to be required after approval of the permit which will be determined in accordance with 30 CFR Part 805, and the estimated maximum liability likely to be required during the life of the mine;

(iii) History of other bonds procured by operator for mining operations in any State, including--

(A) Names of sureties, if any, for outstanding bonds;

(B) Amounts of outstanding bonds;

(C) Name of any surety which denied any bond; and

(D) Unsatisfied claims against any bond;

(iv) Brief chronological history of business operations conducted within the last 10 years including information showing--

(A) Continuous operations; and

(B) The jurisdiction within which each such operation has been conducted;

(v) A financial statement, including--

(A) Audited financial statements prepared and certified by a disinterested independent Certified Public Accountant. All statements shall be prepared following generally accepted principles of accounting and shall include--

(1) A common-size comparative balance sheet which shows assets, liabilities, and owner equity for ten years. The regulatory authority shall have the discretion to increase this length of time to any period which is necessary to show financial solvency and continuous operation. The common-size comparative balance sheet must be detailed with regard to owner's equity, especially retained earnings, so as to set forth a series of retained earning statements showing the changes that have occurred in retained earnings during the required period of time;

(2) A common-size comparative income statement which shows all revenues and expenses for ten years or for such longer time as is required for the common size comparative balance sheet; and

(3) A statement of the operator's working capital and an analysis of assets and liabilities which shall include the following calculated for each year covered by the common-size comparative balance sheet and income statement--

(i) A schedule showing the percentage of each classification of current assets to total current assets;

(ii) The current ratio;

(iii) The acid-test ratio;

(iv) The liquidity ratio; and

(v) The asset ratio;

(vi) The return on investment.

(4) In addition to the above, all ratios must be calculated with the bond amount added to the operator's current or total liabilities;

(5) A ratio of the operator's capital assets subject to a mortgage or security interest to those liabilities to which the assets are subject. If the offer of real property or collateral for the bond will alter this ratio, this must be illustrated.

(B) A satisfactory basis to compare all ratios submitted pursuant to (A) above.

(C) The regulatory authority shall have the right to challenge, prohibit, or prescribe the inclusion of any specific item or the value thereof within any of the above statements or ratios. If the value is challenged, the regulatory authority shall appoint an appraiser or appraisers to value the item. Any such appraisal shall be expeditiously made, and a copy thereof furnished to the regulatory authority and the permittee. The reasonable expense of the appraiser shall be borne by the operator. The findings of the appraisal shall be final and binding.

(D) A final determination by the independent Certified Public Accountant regarding the operator's ability to satisfactorily meet all obligations and costs under the proposed reclamation plan for the life of the mine.

(E) If the regulatory authority deems necessary, evidence of financial responsibility through letters of credit, or a rating of securities issued by the applicant by a recognized national securities rating company.

(vi) A statement listing any liens filed on the assets of the permittee or applicant in any jurisdiction in the United States, actions pending or judgments rendered within the last ten years against the permittee or applicant but not satisfied, and petitions or actions in bankruptcy including actions for reorganization. Each such lien, action, petition, or judgment shall be identified by the named parties, the jurisdiction in which the matter was filed, the case, file or docket number, the date of filing and final disposition or current status of any action still pending.

(vii) A statement listing any notices issued by the Securities and Exchange Commission or proceedings initiated by any party alleging a failure to comply with any public disclosure or reporting requirement under the securities laws of the United States. Such statement shall include a summary of each such allegation, including the date, the requirement alleged to be violated, the party making the allegation, and the disposition or current status thereof.

(6) (i) The indemnity agreement has been executed by the applicant, said agreement has also been executed by:

(A) If a corporation, then by two corporate officers who are authorized to sign the agreement by a resolution of the board of directors, a copy of which shall be provided.

(B) To the extent the history or assets of a parent are relied upon to make the showings of this Part, then the parent organization and every parent organization of which it is a subsidiary, whether first-tier, second-tier, or further removed, in the form of (A) above;

(C) If the applicant is a partnership, all of its general partners and their parent organization or principal investors; and

(D) If the applicant is a married individual, the applicant's spouse.

(ii) The name of each person who signs the indemnity agreement shall be typed or printed beneath the signature. Any person who occupies more than one of the specified positions shall indicate each capacity in which he or she signs the indemnity agreement.

(iii) The indemnity agreement shall be a binding obligation, jointly and severally, on all who execute it.

(iv) For purposes of this paragraph principal investor or parent organization means anyone with a 10 percent or more beneficial ownership interest, directly or indirectly, in the applicant.

(7) If at any time the conditions upon which the self-bond was approved no longer prevail, the regulatory authority shall require the posting of a surety or collateral bond before mining operations may continue.

(c) The Secretary may approve, as part of a State or Federal program, an alternative bonding system, if it will achieve the following objectives and purposes of the bonding program:

(1) The alternative must assure that the regulatory authority will have available sufficient money to complete the reclamation, restoration and abatement provisions for all permit areas which may be in default at any time; and

(2) The alternative must provide a substantial economic incentive for the permittee to comply with all reclamation provisions.

806.12 Terms and conditions of the bond.

(a) The performance bond shall be in an amount determined by the regulatory authority as provided in 30 CFR 805.11 and 805.12.

(b) The performance bond shall be payable to the regulatory authority.

(c) The performance bond shall be conditioned upon faithful performance of all of the requirements of the Act, this Chapter, the regulatory program, and the conditions of the permit and shall cover the entire permit area.

(d) The duration of the bond shall be for the time period provided in 30 CFR 805.13.

(e) Surety bonds shall be subject to the following conditions:

(1) The regulatory authority shall not accept the bond of a surety company unless the bond shall not be cancellable by the surety at any time for any reason including, but not limited to non-payment of premium or bankruptcy of the permittee during the period of liability. Surety bond coverage for permitted lands not disturbed may be cancelled with the consent of the regulatory authority provided the surety gives at least sixty days notice to both the permittee and the regulatory authority of the intent to cancel prior to cancellation. Such notice shall be by certified mail and shall not be effective until received by both the permittee and regulatory authority. Cancellation shall not be effective for lands subject to bond coverage which are disturbed after receipt of notice, but prior to approval by the regulatory authority. The regulatory authority may approve such cancellation only if a replacement bond is filed by the permittee prior to the cancellation date, or the permit is amended so that the surface coal mining operations approved under the permit are reduced to the degree necessary to cover all the costs attributable to the completion of reclamation operations on the reduced permit area in accordance with 30 CFR part 805 and the remaining performance bond liability.

(2) The regulatory authority shall not accept a surety company's bond in excess of the company's maximum single obligation as provided by State law in the State where the permit area is located, unless the surety company satisfies State law for exceeding that limit. In States where no maximum single obligation limit is established by State law, the regulatory authority shall not accept surety bonds in excess of 10 percent of the surety company's capital surplus account as shown on a balance sheet certified by a Certified Public Accountant.

(3) The regulatory authority shall not accept surety bonds from a surety company for any person, on all permits held by that person, in excess of three times the company's maximum single obligation as provided by State law or, in the absence of State law, as provided in paragraph (e)(2) of this section.

(4) The regulatory authority may provide in the bond that the amount shall be confessed to judgment upon forfeiture, if this procedure is authorized by State law.

(5) The bond shall provide that the surety and the permittee shall be jointly and severally liable.

(6) The bond shall provide that--

(i) The surety will give prompt notice to the permittee and the regulatory authority of any notice received or action filed alleging the insolvency or bankruptcy of the surety, or alleging any violations of regulatory requirements which could result in suspension or revocation of the surety's license to do business;

(ii) In the event the surety becomes unable to fulfill its obligations under the bond for any reason, notice shall be given immediately to the permittee and the regulatory authority;

(iii) Upon the incapacity of a surety by reason of bankruptcy, insolvency or suspension or revocation of its license, the permittee shall be deemed to be without bond coverage in violation of Section 800.11(b) and shall discontinue surface coal mining operations until new performance bond coverage is approved.

(f) Collateral bonds, except for letters of credit, shall be subject to the following conditions:

(1) The regulatory authority shall obtain possession of and keep in custody all collateral deposited by the applicant, until authorized for release or replacement as provided in this Subchapter.

(2) The regulatory authority shall value collateral at their current market value, not face value.

(3) The regulatory authority shall require that certificates of deposit be assigned to the regulatory authority, in writing, and upon the books of the bank issuing such certificates.

(4) The regulatory authority shall not accept an individual certificate for a denomination in excess of $40,000, or maximum insurable amount as determined by F.D.I.C. and F.S.L.I.C.

(5) The regulatory authority shall require the banks issuing these certificates to waive all rights of setoff or liens which it has or might have against those certificates.

(6) The regulatory authority shall only accept automatically renewable certificates of deposit.

(7) The regulatory authority shall require the applicant to deposit sufficient amounts of certificates of deposit, to assure that the regulatory authority will be able to liquidate those certificates prior to maturity, upon forfeiture, for the amount of the bond required by this Subchapter.

(g) Letters of credit shall be subject to the following conditions--

(1) The letter may only be issued by a bank organized or authorized to do business in the U.S.--

(2) The letter must be irrevocable prior to a release by the regulatory authority in accordance with 30 CFR Part 807;

(3) The letter must be payable to the regulatory authority in part or in full upon demand and receipt from the regulatory authority of a notice of forfeiture issued in accordance with 30 CFR Part 808.

(4) The regulatory authority shall not accept a letter of credit in excess of 10 percent of the Bank's capital surplus account as shown on a balance sheet certified by a Certified Public Accountant.

(5) The regulatory authority shall not accept letters of credit from a Bank for any person, on all permits held by that person, in excess of three times the company's maximum single obligation as provided by State law or, in the absence of State law, as provided in paragraph (e)(2) of this section.

(6) The regulatory authority may provide in the indemnity agreement that the amount shall be confessed to judgment upon forfeiture, if this procedure is authorized by State law.

(7) The bond shall provide that-

(i) The bank will give prompt notice to the permittee and the regulatory authority of any notice received or action filed alleging the insolvency or bankruptcy of the bank, or alleging any violations of regulatory requirements which could result in suspension or revocation of the bank's charter or license to do business;

(ii) In the event the bank becomes unable to fulfill its obligations under the letter of credit for any reason, notice shall be given immediately to the permittee and the regulatory authority;

(iii) Upon the incapacity of a bank by reason of bankruptcy, insolvency or suspension or revocation of its charter or license, the permittee shall be deemed to be without performance bond coverage in violation of Section 800.11(b) and shall discontinue surface coal mining operations until new performance bond coverage is approved.

806.13 Replacement of bonds.

(a) The regulatory authority may allow permittees to replace existing surety or collateral bonds with other surety or collateral bonds, if the liability which has accrued against the permittee on the permit area is transferred to such replacement bonds.

(b) The regulatory authority may allow the permittee to replace existing surety or collateral bonds with a self-bond, provided that the permittee meets the requirements of self-bonding as provided in 806.11(b).

(c) The regulatory authority shall not release existing performance bonds until the permittee has submitted and the regulatory authority has approved acceptable replacement performance bonds. A replacement of performance bonds pursuant to this section shall not constitute a release of bond under 30 CFR 807.

806.14 Terms and conditions for liability insurance.

(a) The regulatory authority shall require the applicant to submit at the time of permit application, a certificate certifying that the applicant has a public liability insurance policy in force for the surface coal mining and reclamation operation for which the permit is sought. The certificate shall provide for personal injury and property damage protection in an amount adequate to compensate all persons injured or property damaged as a result of surface coal mining and reclamation operations, including use of explosives and damage to water wells, and entitled to compensation under the applicable provisions of State law. Minimum insurance coverage for bodily injury shall be $300,000 for each occurrence and $500,000 aggregate; and minimum insurance coverage for property damage shall be $300,000 for each occurrence and $500,000 aggregate.

(b) The policy shall be maintained in full force during the life of the permit or any renewal thereof, including completion of all reclamation operations under this Chapter.

(c) The policy shall include a rider requiring that the insuror notify the regulatory authority whenever substantive changes are made in the policy, including any termination or failure to renew.

(d) The regulatory authority may accept from the applicant, in lieu of a certificate for a public liability insurance policy, satisfactory evidence from the applicant that it satisfies applicable State self-insurance requirements approved as part of the regulatory program and the requirements of this section.

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PART 807--PROCEDURES, CRITERIA AND SCHEDULE FOR RELEASE OF PERFORMANCE BOND

Sec.
807.1 Scope.
807.11 Procedures for seeking release of performance bond.
807.12 Criteria and schedule for release of performance bond

Authority: Secs. 102, 201(c), 501(b), 503, 504, 507(b), 508, 509, 510, 515, 516, and 519, Pub. L. 95-87, 91 Stat. 440, 449, 468, 470, 471, 477, 478, 480, 486, 495, and 501 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1257, 1258, 1260, 1265, 1266, and 1269).

807.1 Scope.

This Part sets forth the minimum provisions for the Secretary's approval of regulatory program procedures and criteria for release of performance bonds for surface coal mining and reclamation operations. This includes the filing, notice and hearing requirements, and the standards by which applications for release shall be evaluated.

807.11 Procedures for seeking release of bond.

(a) Bond Release Application and Contents. The permittee may file an application with the regulatory authority for release of all or part of the performance bond liability applicable to a particular permit after all reclamation restoration and abatement work in a reclamation phase as defined in paragraph 807.12(e) of this part has been completed on the entire permit area or on an area approved pursuant to 800.11(b)(2) for the incremental filing and release of bond liability.

(1) Applications may only be filed at times or seasons that allow the regulatory authority to properly evaluate the reclamation operations alleged to have been completed. The times or seasons appropriate for the evaluation of certain types of reclamation shall be identified in the mining and reclamation operations plan required in Subchapter G of this Chapter and approved by the regulatory authority.

(2) The application shall include copies of letters sent to adjoining property owners, surface owners, local government bodies, planning agencies, and sewage and water treatment facilities or water companies in the locality of the permit area, notifying them of the permittee's intention to seek release of performance bond(s). These letters shall be sent before the permittee files the application for release.

(3) Within 30 days after filing the application for release the permittee shall submit proof of publication of the advertisement called for in paragraph (b) of this section. Such proof of publication shall be considered part of the bond release application.

(b) Newspaper Advertisement of Application. At the time of filing an application under this section, the permittee shall advertise the filing of the application in a newspaper of general circulation in the locality of the permit area. The advertisement shall--

(1) Be placed in the newspaper at least once a week for four (4) consecutive weeks;

(2) Show the name of the permittee, including the number and date of issuance or renewal of the permit;

(3) Show the precise location and the number of acres of the lands subject to the application;

(4) Show the total amount of bond in effect for the permit area and the amount for which release is sought;

(5) Summarize the reclamation, restoration or abatement work done, including, but not limited to, backstowing or mine sealing, if applicable, and give the dates of completion of that work;

(6) Describe the reclamation results achieved, as they relate to compliance with the Act, this Chapter, the regulatory program, and the approved mining and reclamation plan and permit; and

(7) State that written comments, objections, and requests for a public hearing or informal conference may be submitted to the office of the regulatory authority, provide the address of that office, and the closing date by which comments, objections, and requests must be received.

(c) Objections and Requests for Hearing. Written objections to the proposed bond release and requests for a public hearing or informal conference may be filed with the regulatory authority by affected persons within thirty (30) days following the last advertisement of the filing of the application. For the purpose of this subsection, affected persons are--

(1) Any person with a valid legal interest which might be adversely affected by bond release; and

(2) The responsible officer or head of any Federal, State or local government agency which--

(i) Has jurisdiction by law or special expertise with respect to any environmental, social or economic impact involved, or

(ii) Is authorized to develop and enforce environmental standards with respect to surface coal mining and reclamation operations.

(d) Inspection by regulatory authority. The regulatory authority shall inspect and evaluate the reclamation work involved within 30 days after receiving a completed application for bond release, or as soon thereafter as weather conditions permit. The surface owner, or agent, or lessee shall be given notice of such inspection and may participate with the regulatory authority in making the bond release inspection.

(e) Informal Conferences.

Under a regulatory program providing for an informal conference on proposed bond releases, the regulatory authority shall schedule a conference if written objections are filed and a conference is requested. The conference shall be held in the locality of the permit area for which bond release is sought.

(1) Notice of an informal conference shall be published in the Federal Register, under Federal programs, or in the official State publication, where such exists, under State programs, and in a newspaper of general circulation in the locality of the conference, at least two weeks before the date of the conference.

(2) The informal conference shall be held within 30 days from the date of the notice.

(3) The requirements of Section 5 of the Administrative Procedures Act (5 U.S.C. Sec. 554) shall not apply to the conduct of the informal conference.

(4) An electronic or stenographic record shall be made of the conference and the record maintained for access by the parties, until final release of the bond, unless recording is waived by all of the parties to the conference.

(f) Regulatory Authority Review and Decision

(1) The regulatory authority shall consider, during inspection evaluation, hearing and decision--

(i) Whether the permittee has met the criteria for release of the bond under Section 807.12;

(ii) The degree of difficulty in completing any remaining reclamation; and

(iii) Whether pollution of surface and subsurface water is occurring, the probability of future pollution or the continuance of any present pollution, and the estimated cost of abating any pollution.

(2) If no public hearing has been held under paragraph (g)(1) or informal conference has been held under paragraph (e), the regulatory authority shall notify the permittee and any other interested parties in writing of its decision to release or not to release all or part of the performance bond or deposit within sixty (60) days from the filing of the request.

(3) If there has been a public hearing held under paragraph (g)(1) or conference held under paragraph (e), the notification of the decision shall be made to all interested parties within thirty days after conclusion of the conference or hearing.

(4) The notice of the decision shall state the reasons for the decision, recommend any corrective actions necessary to secure the release, and notify the applicant and all interested parties of their right to appeal the decision.

(5) The regulatory authority shall notify the town, city or other municipality nearest to, or the county in which the surface coal mining and reclamation operations are located, by certified mail at least thirty days prior to release of all or part of the bond.

(g) Administrative Review-Public Hearings.

(1) Under regulatory programs providing for an informal conference prior to a final decision on a bond release, the applicant or any party to the informal conference with an interest which is or may be adversely affected by the decision of the regulatory authority under paragraph (f) may request a public hearing on the reasons for that decision. Requests for hearings shall be filed within 30 days after the applicant or party is notified of the decision of the regulatory authority under paragraph (f).

(i) Federal Programs.

Public hearings shall be conducted in accordance with 5 USC sec. 554 and the rules of the Department's Office of Hearings and Appeals, 43 CFR 4.

(ii) State Programs.

The regulatory authority shall inform the permittee, local government, and objecting party of the time, date, and place of the hearing and publish notice of the hearing in the official State publication, if any, and in a newspaper of general circulation in the locality of the permit area twice a week for two consecutive weeks before the hearing. The hearing shall be adjudicatory in nature and be held within 30 days of the receipt of the request, in the town or city nearest the permit area, or the State capital, at the option of the objector. The regulatory authority may subpoena witnesses and printed materials and compel the attendance of witnesses and production of the materials at the hearing. A verbatim record of the hearing shall be made and the transcript made available on the motion of any party or by order of the regulatory authority. The decision of the hearing authority shall be made within 30 days of the hearing. Parties seeking to reverse the decision or any part of the decision of the regulatory authority which is the subject of the hearing shall have the burden of presenting a preponderance of evidence, to persuade the hearing authority that the decision cannot be supported by the reasons given in the notification of the regulatory authority's decision.

(2) Where the regulatory program does not provide for an informal conference under paragraph (e) of this section, the regulatory authority shall hold a public hearing if written objections are filed and a public hearing is requested under paragraph (c). The regulatory authority shall hold the hearing, which shall be adjudicatory in nature, within 30 days of the receipt of the request, in the town or city nearest the permit area, or the State capital, at the option of the objector.

(i) The regulatory authority shall: Inform the permittee, local government, and the objecting party of the time and place of the hearing, and publish notice of the hearing in the official State publication, if any, and advertise the date, time, and location of the hearing in a newspaper of general circulation in the locality of the permit area twice a week for two consecutive weeks before the hearing.

(ii) The regulatory authority may subpoena witnesses and written and printed materials and compel the attendance of witnesses at the hearing. A verbatim record of each public hearing shall be made and the transcript made available on the motion of any party to the hearing or by order of the regulatory authority.

(iii) The hearing authority shall render a decision on the proposed bond release within the time specified by paragraph (f)(3).

807.12 Criteria and schedule for release of performance bond.

(a) The regulatory authority shall not release any liability under performance bonds until it finds that the permittee has met the requirements of the applicable reclamation phase as defined in paragraph (d) of this section. The regulatory authority may release portions of the liability under performance bonds applicable to a permit following completion of reclamation phases on the entire permit area or on incremental areas within the permit area which have been designated in the approved reclamation plan.

(b) The maximum liability under performance bonds applicable to a permit which may be released at any time prior to the release of all acreage from the permit area shall be calculated by multiplying the ratio between the acreage on which a reclamation phase has been completed and the total acreage in the permit area, times the total liability under performance bonds applicable to a permit, times:

(1) 0.6 if reclamation phase I has been completed, or

(2) 0.25 if reclamation phase II has been completed

(c) Acreage may be released from the permit area only after reclamation phase III has been completed. The maximum performance bond liability applicable to a permit which may be released at any time prior to the completion of reclamation phase III on the entire permit area shall be calculated by multiplying the ratio between the acreage on which reclamation phase III has been completed and the total acreage in the permit area, times the total liability under performance bonds applicable to a permit, times 0.15.

(d) The regulatory authority shall not release any liability under performance bonds applicable to a permit if such release would reduce the total remaining liability under performance bonds to an amount less than that necessary for the regulatory authority to complete the approved reclamation plan, achieve compliance with the requirements of the Act, this Chapter, the regulatory program or the permit, and abate any significant environmental harm to air, water or land resources or danger to the public health and safety which might occur prior to the release of all lands from the permit area.

(e) For the purposes of this Part--

(1) Reclamation phase I shall be deemed to have been completed when the permittee completes backfilling, topsoil replacement, regrading and drainage control in accordance with the approved reclamation plan; and

(2) Reclamation phase II shall be deemed to have been completed when--

(i) Revegetation has been established in accordance with the approved reclamation plan and the standards for measuring the success of revegetation are met;

(ii) The lands are not contributing suspended solids to stream flow or runoff outside the permit area in excess of the requirements of Section 515(b)(10) of the Act, Subchapter K of this Chapter, the regulatory program, or the permit; and

(iii) With respect to prime farmlands, soil productivity has been returned to the level of yield as required by 30 CFR 785.19 and 823 when compared with non-mined prime farmland in the surrounding area as determined from the soil survey performed under Section 507(b)(16) of the Act and plan approved under 30 CFR Section 785.17; and

(iv) The provisions of a plan approved by the regulatory authority for the sound future management of any permanent impoundment by the permittee or landowner has been implemented to the satisfaction of the regulatory authority; and

(v) The reestablishment of essential hydrologic functions on alluvial valley floors.

(3) Reclamation phase III will be deemed to have been completed when the permittee has successfully completed all surface coal mining and reclamation operations in accordance with the approved reclamation plan, and achieved compliance with the requirements of the Act, this Chapter, the regulatory program, the permit, and the applicable liability period under Section 515(b)(20) of the Act has expired.

PART 808-- PERFORMANCE BOND FORFEITURE CRITERIA AND PROCEDURES

Sec.
808.1 Scope.
808.11 General.
808.12 Procedures.
808.13 Criteria for forfeiture.
808.14 Determination of forfeiture amount.

Authority: Secs. 102, 201(c), 501(b), 509(a), and 519, Pub. L. 95-87, 91 Stat. 448, 449, 468, 480, and 501 (30 U.S.C. 1202, 1211, 1251, 1259, and 1269).

§808.1
Scope.

This Part sets forth the minimum requirements for the Secretary's approval of regulatory program provisions to be applicable whenever the regulatory authority initiates a proceeding for the forfeiture of all or any part of bond, as a result of the permittee's failure to meet the conditions upon the bond.

§808.11
General.

(a) The regulatory authority shall forfeit all or part of a bond for any permit where required or authorized by Section 808.13.

(b) The regulatory authority may withhold forfeiture, if the permittee and surety, if applicable, agree to a compliance schedule to comply with the violations of the permit or bond conditions.

§808.12
Procedures.

(a) In the event forfeiture of the bond is required by Section 808.11 and 808.13, the regulatory authority shall--

(1) Send written notification by certified return mail to the permittee, and the surety on the bond, if applicable, of the regulatory authority's determination to forfeit all or part of the bond and the reasons for the forfeiture, including a finding of the amount to be forfeited;

(2) Advise the permittee and surety, if applicable, of any rights of appeal that may be available for that determination under State law, if the regulatory authority is the State, or under Federal law, if the regulatory authority is the Office; and

(3) Proceed in an action for collection on the bond as provided by applicable laws for the collection of defaulted bonds or other debts, consistent with this section, for the amount of the estimated costs to the regulatory authority to carry out the applicable reclamation requirements, if an appeal is not filed within a time established by the regulatory authority or is unsuccessful; and

(4) If an appeal is filed, defend the action.

(b) The written determination to forfeit all or part of the bond, including the reasons for forfeiture and the amount to be forfeited, shall be a final decision by the regulatory authority.

(c) The regulatory authority may forfeit any or all bond deposited for an entire permit area, in order to satisfy sections 808.11-808.14. Liability under any bond, including seperate bond increments or indemnity agreements applicable to a single operation shall extend to the entire permit area with respect to protection of the hydrologic system.

§808.13
Criteria for forfeiture.

(a) A bond shall be forfeited, if the regulatory authority finds that--

(1) The permittee has violated any of the terms or conditions of the bond; or

(2) The permittee has failed to conduct the surface mining and reclamation operations in accordance with the Act, the conditions of the permit, this Chapter, the regulatory program, within the time required by the Act, this Chapter, the regulatory program, and the permit; or

(3) The permit for the area under bond has been revoked, unless the operator assumes liability for completion of reclamation work; or

(4) The permittee has failed to comply with a compliance schedule approved pursuant to 808.11(b).

(b) A bond may be forfeited, if the regulatory authority finds that--

(1) The permittee has become insolvent, failed in business, been adjudicated a bankrupt, filed a petition in bankruptcy or for a receiver, or had a receiver appointed by any court; or

(2) A creditor of the permittee has attached or executed a judgment against the permittee's equipment, materials, facilities at the permit area or on the collateral pledged to the regulatory authority; and

(3) The permittee cannot demonstrate or prove the ability to continue to operate in compliance with the Act, this Chapter, the regulatory program, and the permit.

§808.14
Determination of forfeiture amount.

The regulatory authority shall either--

(a) Determine the amount of the bond to be forfeited on the basis of the estimated cost to the regulatory authority or its contractor to complete the reclamation plan and other regulatory requirements in accordance with the Act, this Chapter, the regulatory program, and the requirements of the permit; or

(b) Forfeit the entire amount of the bond for which liability is outstanding and deposit the proceeds thereof in an interest-bearing escrow account for use in the payment of all costs and administrative expenses associated with the completion of reclamation by the regulatory authority.

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PART 809-- BONDING AND INSURANCE REQUIREMENTS FOR ANTHRACITE SURFACE COAL MINING AND RECLAMATION OPERATIONS

Sec.
809.1 Scope.
809.2 Objective.
809.3 Responsibilities.
809.11 Applicability.
809.12 Requirements.

Authority: Sections 102, 201(c), 501(b), 507(f), 507(b)(16), 509, 515(b)(8) and (10), 519 and 529, Pub. L. 95-87, 91 Stat. 445, 449, 468, 477, 479, 488, 489, 501 and 514 (30 U.S.C. 1202, 1211, 1251, 1257, 1259, 1265, 1269 and 1279).

§809.1
Scope.

This Part sets forth the applicability and general requirements for bonding and insuring anthracite surface coal mining and reclamation operations where those operations were regulated by environmental protection standards of the State of Pennsylvania in which they are located on or before August 2, 1977.

§809.2
Objective.

The objective of this Part is to provide minimum standards for bonds and insurance for anthracite surface coal mining and reclamation operations under Section 529(a) of the Act.

§809.3
Responsibilities.

All persons seeking to engage in or engaging in anthracite surface coal mining and reclamation operations subject to this section and the regulatory authority regulating those anthracite surface coal mining and reclamation operations shall comply with this Part.

§809.11
Applicability.

This Part applies to any person seeking to engage in or engaging in anthracite surface coal mining and reclamation operations in Pennsylvania.

§809.12
Requirements.

(a) All of the provisions of this Subchapter shall apply to bonding and insuring anthracite surface coal mining and reclamation operations in Pennsylvania, except that:

(1) Specified bond limits shall be determined by the regulatory authority in accordance with applicable provisions of Pennsylvania statutes, rules and regulations promulgated thereunder, and implementing policies of the Pennsylvania Department of Environmental Resources.

(2) The period of liability for responsibility under each bond shall be established for those operations in accordance with applicable laws of the State of Pennsylvania, rules and regulations promulgated thereunder, and implementing policies of the Pennsylvania Department of Environmental Resources.

(b) Upon amendment of the Pennsylvania permanent regulatory program with respect to specified bond limits and period of revegetation responsibility for anthracite surface coal mining and reclamation operations, any person engaging in or seeking to engage in those operations shall comply with additional regulations the Secretary may issue as are necessary to meet the purposes of the Act.

(c) Nothing in this Part shall exempt anthracite surface coal mining and reclamation operations from the requirements of this Chapter, except as set forth in this section.

SUBCHAPTER K-- PERMANENT PROGRAM PERFORMANCE STANDARDS

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PART 810-- PERMANENT PROGRAM PERFORMANCE STANDARDS-- GENERAL PROVISIONS

Sec.	
810.1	Scope.
810.2	Objective.
810.3	Authority.
810.4	Responsibility.
810.11	Applicability.

Authority: Secs. 102, 201, 501(b), 503, 504, 505, 512, 515, 516 and 517 of Pub. L. 95-87, 91 Stat. 448, 449, 468, 470, 471, 473, 483, 486, 495, and 498 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1255, 1262, 1265, 1266, and 1267).

§810.1
Scope.

This Subchapter sets forth the minimum performance standards and design requirements to be adopted and implemented under a regulatory program for coal exploration operations and surface coal mining and reclamation operations.

§810.2
Objective.

The objective of this Subchapter is to ensure that coal exploration and surface coal mining and reclamation operations are conducted in manners which are compatible with the environmental, social, and esthetic needs of the Nation. Accordingly, the performance standards and design requirements in this Subchapter will provide for-

(a) Protection of the health, safety, and general welfare of mine workers and the public;

(b) Maximum use and conservation of the solid fuel resource being recovered so that reaffecting the land through future surface coal mining operations can be minimized;

(c) Prompt reclamation of all affected areas to conditions that are capable of supporting the premining land uses or higher or better land uses;

(d) Reclamation of land affected by surface coal mining operations as contemporaneously as practicable with mining operations;

(e) Minimizing, to the extent possible using the best technology currently available, disturbances and adverse impacts on fish, wildlife and other related environmental values, and enhancement of such resources where practicable;

(f) Revegetation which achieves a prompt vegetative cover and recovery of productivity levels of lands effectively, surface coal mine operations compatible with approved land uses;

(g) Minimum disturbance to the prevailing hydrologic balance at the mine-site and in associated off-site areas, and to the quality and quantity of water in surface and ground water systems;

(h) Protection of fragile and historic lands where surface coal mining operations could result in significant damage to important historic, cultural, scientific, or esthetic values and natural systems;

(i) Confinement of surface coal mining and reclamation operations including, but not limited to, the location of spoil disposal areas to lands within the permit area; and

(j) Striking a balance between protection of the environment and agricultural productivity and the Nation's need for coal as an essential source of energy.

§810.3
Authority.

The Secretary shall approve and promulgate minimum coal exploration and surface mining and reclamation operations performance standards and design requirements applicable under regulatory programs which are at least as stringent as Subchapter K in accordance with Subchapter C of this chapter.

§810.4
Responsibility.

(a) The Director shall ensure that performance standards and design requirements at least as stringent as the standards of this Subchapter are implemented and enforced under every regulatory program.

(b) The State regulatory authority shall ensure that performance standards and design requirements at least as stringent as the standards in this Subchapter are implemented and enforced under every State program.

(c) Each person conducting coal exploration or surface coal mining and reclamation operations is responsible for complying with performance standards and design requirements which are at least as stringent as the standards in this Subchapter and the applicable regulatory program.

810.11 Applicability.

Part 815 applies to all coal exploration conducted under regulatory programs. Part 816 applies to all surface mining activities conducted under regulatory programs. Part 817 applies to all underground mining activities conducted under regulatory programs. Parts 818 through 828 apply to certain special categories of surface coal mining and reclamation operations. Parts 816 and 817 apply to each of those special categories of operations, except to the extent that a provision of Part 818 through 828 specifically exempts a particular category from a particular requirement of Part 816 or 817.

PART 815 -- PERMANENT PROGRAM PERFORMANCE STANDARDS -- COAL EXPLORATION OPERATIONS

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815.1 Scope.
815.2 Objectives.
815.11 General responsibility of persons conducting coal exploration.
815.13 Required documents.
815.15 Performance standards for coal exploration operations
815.17 Requirement for a permit.

Authority: Secs. 102, 201, 501(b), 503, 504, 506, 512, 515, 516 and 517 of Pub. L. 95-87, 91 Stat. 448, 449, 468, 470, 471, 473, 483, 486, 495 and 498 (30 USC 1202, 1211, 1251, 1253, 1254, 1256, 1262, 1265, 1266, 1267).

§815.1
Scope.

This Part sets forth performance standards and design requirements required for coal exploration which substantially disturbs the natural land surface. These performance standards and design requirements are the minimum standards which shall be required of such exploration, and such explorations may, at the discretion of the regulatory authority, be further required to comply with the applicable performance standards and design requirements of 30 CFR 816-828.

815.2
Objectives.

The objectives of this Part are to:

(a) Provide any person who conducts or intends to conduct coal exploration which substantially disturb the natural land surface with minimum environmental protection performance standards and design requirements under a regulatory program; and

(b) Prevent degradation of environmental quality during and following the conduct of coal exploration.

815.11
General responsibility of persons conducting coal exploration.

(a) Each person who conducts coal exploration which substantially disturbs the natural land surface and in which 250 tons or less of coal are removed shall file the notice of intention to explore required under 30 CFR 776.12 and shall comply with Section 815.15 of this Part.

(b) Each person who conducts coal exploration which substantially disturbs the natural land surface and in which more than 250 tons of coal are removed in the area described by the written approval from the regulatory authority, shall comply with the procedures described in the exploration and reclamation operations plan approved under 30 CFR 776.13 and shall comply with Section 815.15 of this Part.

815.13
Required documents.

Each person who conducts coal exploration which substantially disturbs the natural land surface and which remove more than 250 tons of coal shall, while in the exploration area, possess written approval of the regulatory authority for the activities granted under 30 CFR 776.12. The written approval shall be available for review by the authorized representative of the regulatory authority or the Office upon request.

815.15
Performance standards for coal exploration.

The following performance standards described in this Section are applicable to coal exploration which substantially disturbs land surface.

(a) Habitats of unique value for fish, wildlife and other related environmental values shall not be disturbed during coal exploration.

(b) The person who conducts coal exploration shall, to the extent practicable, measure important environmental characteristics of the exploration area during the operations, to minimize environmental damage to the area and to provide supportive information for any permit application that person may submit under Subchapter G.

(c)(1) Vehicular travel on other than established graded and surfaced roads shall be limited by the person who conducts coal exploration to that absolutely necessary to conduct the exploration. Travel shall be confined to graded and surfaced roads during periods when excessive damage to vegetation or rutting of the land surface could result.

(2) Any new road in the exploration area which is used less than 6 months shall comply with the provisions of 30 CFR 816.170-816.176. If the road will be used longer than 6 months, it shall comply with the provisions of 30 CFR 816.150-816.166.

(3) Existing roads may be used for exploration in accordance with the following:

(i) All applicable Federal, State, and local requirements shall be met.

(ii) If the road is significantly altered for exploration, including, but not limited to, change of grade, widening, or change of route, or if use of the road for exploration contributes additional suspended solids to streamflow or runoff, then paragraph (g) of this Section shall apply to all areas of the road which are altered or which result in such additional contributions.

(iii) If the road is significantly altered for exploration activities and will remain as a permanent road after exploration activities are completed, the person conducting exploration shall ensure that the requirements of 30 CFR 816.150 - 816.166, as appropriate, are met for the design, construction, alteration, and maintenance of the road.

(4) Promptly, after exploration activities are completed, existing roads used during exploration shall be reclaimed either--

(i) To a condition equal to or better than their preexploration condition; or

(ii) To the condition required for permanent roads under 30 CFR 816.150 - 816.166, as appropriate.

(d) If excavations, artificial flat areas or embankments are created during exploration, these areas shall be returned to the approximate original contour promptly after such features are no longer needed for coal exploration.

(e) Topsoil shall be removed, stored and redistributed on disturbed areas as necessary to assure successful revegetation or as required by the regulatory authority.

(f) Revegetation of areas disturbed by coal exploration shall be performed by the person who conducts the exploration, or his or her agent. If more than 250 tons of coal are removed from the exploration area, all revegetation shall be in compliance with the plan approved by the regulatory authority and carried out in a manner that encourages prompt vegetative cover and recovery of productivity levels compatible with approved postexploration land use and in accordance with the following:

(1) All disturbed lands shall be seeded or planted to the same seasonal variety native to the disturbed area. If both the preexploration and postexploration land uses are intensive agriculture, planting of the crops normally grown will meet the requirements of this paragraph.

(2) The vegetative cover shall be capable of stabilizing the soil surface in regards to erosion.

(g) With the exception of small and temporary diversions of overland flow of water around new roads, drill pads, and support facilities, no ephemeral, intermittent or perennial stream shall be diverted during coal exploration activities. Overland flow of water shall be diverted in a manner that--

(1) Prevents erosion;

(2) To the extent possible using the best technology currently available, prevents additional contributions of suspended solids to streamflow or runoff outside the exploration area; and

(3) Complies with all other applicable State or Federal requirements.

(h) Each exploration hole, borehole, well, or other exposed underground opening created during exploration must meet the requirements of 30 CFR 816.13, 816.14, and 816.15.

(i) All facilities and equipment shall be removed from the exploration area promptly when they are no longer needed for exploration operations, except for those facilities and equipment that the regulatory authority determines may remain to--

(1) Provide additional environmental quality data;

(2) Reduce or control the on- and off-site effects of the exploration activities; or

(3) Facilitate future surface mining and reclamation operations by the person conducting the exploration operations under an approved permit.

(j) Coal exploration shall be conducted in a manner which minimizes disturbance of the prevailing hydrologic balance, and shall include sediment control measures such as those listed in 30 CFR 816.45 or sedimentation ponds which comply with 30 CFR 816.46. The regulatory authority may specify additional measures which shall be adopted by the person engaged in coal exploration.

(k) Toxic- or acid-forming materials shall be handled and disposed of in accordance with 30 CFR 816.48 and 816.103. If specified by the regulatory authority, additional measures shall be adopted by the person engaged in coal exploration.

815.17
Requirement for a permit.

Any person who extracts coal for commercial sale during coal exploration operations must obtain a permit for those operations from the regulatory authority under Subchapter G. No permit is required if the regulatory authority makes a prior determination that the sale is to test for coal properties necessary for the development of surface coal mining and reclamation operations for which a permit application is to be submitted at a later time.

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PART 816 -- PERMANENT PROGRAM PERFORMANCE STANDARDS -- SURFACE MINING ACTIVITIES

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Authority: Secs. 102, 201, 501, 503, 504, 508, 515, 517, 519, 701, 717, and 719 of Pub. L. 95-87, 91 Stat. 448, 449, 467, 470, 471, 478, 486, 498, 501, 516, 526 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1258, 1265, 1267, 1269, 1291, 1307, 1309).

§816.1
Scope.

This Part sets forth the minimum environmental protection performance standards to be adopted and implemented under regulatory programs for surface mining activities.

§816.2
Objectives.

This Part is intended to ensure that all surface mining activities are conducted in a manner which preserves and enhances environmental and other values in accordance with the Act.

§816.11
Signs and markers.

(a) Specifications. Signs and markers required under this Part shall--

(1) Be posted and maintained by the person who conducts the surface mining activities;
(2) Be of a uniform design throughout the operation that can be easily seen and read;

(3) Be made of durable material; and

(4) Conform to local ordinances and codes.

(b) Duration of maintenance. Signs and markers shall be maintained during the conduct of all activities to which they pertain.

(c) Mine and permit identification signs.

(1) Identification signs shall be displayed at each point of access to the permit area from public roads.

(2) Signs shall show the name, business address, and telephone number of the person who conducts the surface mining activities and the identification number of the current permit authorizing surface mining activities.

(3) Signs shall be retained and maintained until after the release of all bonds for the permit area.

(d) Perimeter markers. The perimeter of a permit area shall be clearly marked before the beginning of surface mining activities.

(e) Buffer zone markers. Buffer zones shall be marked along their boundaries under section 816.57.

(f) Blasting signs. If blasting is conducted incident to surface mining activities, the person who conducts these activities shall:

(1) Conspicuously display signs reading "Blasting Area" along the edge of any blasting area that comes within 50 feet of any road within the permit area, or within 100 feet of any public road right of way.

(2) Conspicuously flag, or post within the blasting area, the immediate vicinity of charged holes as required by Section 816.65(e).

(3) Place at all entrances to the permit area from public roads or highways conspicuous signs which state "Warning! Explosives in Use", which clearly explain the blast warning and all clear signals that are in use and which explain the marking of blast areas and charged holes within the permit area.

(g) Topsoil markers. Where topsoil or other vegetation-supporting material is segregated and stockpiled as required under Section 816.23, the stockpiled material shall be clearly marked.

§816.13
Casing and sealing of drilled holes: General requirements.

Each exploration hole, other drill or borehole, well, or other exposed underground opening shall be cased, sealed, or otherwise managed, as approved by the regulatory authority, to prevent acid or other toxic drainage from entering ground or surface waters, to minimize disturbance to the prevailing hydrologic balance, and to ensure the safety of people, livestock, fish and wildlife, and machinery in the mine plan and adjacent area. If these openings are uncovered or exposed by surface mining activities within the permit area they shall be permanently closed, unless approved for water monitoring, or otherwise managed in a manner approved by the regulatory authority. Use of a drilled or borehole or monitoring well as a water well must meet the provisions of Section 816.53 of this Part. This Section does not apply to holes solely drilled and used for blasting.

§816.14
Casing and sealing of drilled holes: Temporary.

Each exploration hole, other drill or borehole, well and other exposed underground opening which has been identified in the approved permit application for use to return coal processing waste or water to underground workings, or to be used to monitor ground water conditions, shall be temporarily sealed before use and protected during use by barricades, or fences, or other protective devices approved by the regulatory authority. These devices shall be periodically inspected and maintained in good operating condition by the person who conducts the surface mining activities.

§816.15
Casing and sealing of drilled holes: Permanent.

When no longer needed for monitoring or other use approved by the regulatory authority upon a finding of no adverse environmental or health and safety effect, or unless approved for transfer as a waterwell under Section 816.53, each exploration hole, other drill or borehole, well, and other exposed underground opening shall be capped, sealed, backfilled, or otherwise properly managed, as required by the regulatory authority, under section 816.13 and consistent with 30 CFR 75.1711. Permanent closure measures shall be designed to prevent access to the mine workings by people, livestock, fish and wildlife, and machinery, and to keep acid or other toxic drainage from entering ground or surface waters.

§816.21
Topsoil: General requirements.

(a) Before disturbance of an area, topsoil and subsoils to be saved under Section 816.22 shall be separately removed and segregated from other material.

(b) After removal, topsoil shall either be immediately redistributed under Section 816.24 or stockpiled pending redistribution under Section 816.23.

§816.22
Topsoil: Removal.

(a) Timing. Topsoil shall be removed after vegetative cover that would interfere with the use of the topsoil is cleared from the areas to be disturbed, but before any drilling, blasting, mining, or other surface disturbance.

(b) Materials to be removed. All topsoil shall be removed in a separate layer from the areas to be disturbed, unless use of substitute or supplemental materials is approved by the regulatory authority in accordance with paragraph (e) of this Section. If use of substitute or supplemental materials is approved, all materials to be redistributed shall be removed,

(c) Material to be removed in thin topsoil situations. If the topsoil is less than 6 inches, a 6-inch layer that includes the A horizon and the unconsolidated materials immediately below the A horizon or the A horizon and all unconsolidated material if the total available is less than 6 inches, shall be removed and the mixture segregated and redistributed as the surface soil layer, unless topsoil substitutes are approved by the regulatory authority pursuant to paragraph (e) of this Section.

(d) Subsoil segregation. The B horizon and portions of the C horizon, or other underlying layers demonstrated to have qualities for comparable root development shall be segregated and replaced as subsoil, if the regulatory authority determines that either of these is necessary or desirable to ensure soil productivity consistent with the approved post-mining land use.

(e) Topsoil substitutes and supplements.
(1) Selected overburden materials may be substituted for or used as a supplement to, topsoil, if the regulatory authority determines that the resulting soil medium is equal to or more suitable for sustaining revegetation than is the available topsoil and the substitute material is the best available to support revegetation. This determination shall be based on:

(i) The results of chemical and physical analyses of overburden and topsoil. These analyses shall include determinations of pH, net acidity or alkalinity, phosphorus, potassium, texture class, and other analyses as required by the regulatory authority. The regulatory authority may also require that results of field-site trials or greenhouse tests be used to demonstrate the feasibility of using these overburden materials.

(ii) Results of analyses, trials and tests shall be submitted to the regulatory authority. Certification of trials and tests shall be made by a laboratory approved by the regulatory authority, stating that:
(A) The proposed substitute material is equal to or more suitable for sustaining the vegetation than is the available topsoil:
(B) The substitute material is the best available material to support the vegetation; and
(C) The trials and tests were conducted using standard testing procedures.

(2) Substituted or supplemental material shall be removed, segregated, and replaced in compliance with the requirements for topsoil under this Section.

(f) Limits on topsoil removal area. Where the removal of vegetative material, topsoil or other materials may result in erosion which may cause air or water pollution -

(1) The size of the area from which topsoil is removed at any one time shall be limited;

(2) The surface soil layer shall be redistributed at a time when the physical and chemical properties of topsoil can be protected and erosion can be minimized; and

(3) Such other measures shall be taken as the regulatory authority may approve or require to control erosion.

§816.23
Topsoil: Storage.

(a) Topsoil and other materials removed under Section 816.22 shall be stockpiled only when it is impractical to promptly redistribute such materials on regraded areas.

(b) Stockpiled materials shall be selectively placed on a stable area within the permit area, not disturbed, and protected from wind and water erosion, unnecessary compaction, and contaminants which lessen the capability of the materials to support vegetation when redistributed.

(1) Protection measures shall be accomplished either by -

(i) An effective cover of nonnoxious, quick-growing annual and perennial plants, seeded or planted during the first normal period after removal for favorable planting conditions; or

(ii) Other methods demonstrated to and approved by the regulatory authority to provide equal protection.

(2) Unless approved by the regulatory authority, stockpiled topsoil and other materials shall not be moved until required for redistribution on a regraded area.

§816.24
Topsoil: Redistribution.

(a) After final grading and before the replacement of topsoil and other materials segregated in accordance with Section 816.23, regraded land shall be scarified or otherwise treated as required by the regulatory authority to eliminate slippage surfaces and to promote root penetration. If the person who conducts the surface mining activities shows, through appropriate tests, and the regulatory authority approves, that no harm will be caused to the topsoil and vegetation, scarification may be conducted after topsoiling.

(b) Topsoil and other materials shall be redistributed in a manner that --

(1) Achieves an approximate uniform, stable thickness consistent with the approved post-mining land uses, contours, and surface water drainage system;

(2) Prevents excess compaction of the topsoil; and

(3) Protects the topsoil from wind and water erosion before and after it is seeded and planted.

§816.25
Topsoil: Nutrients and soil amendments.

Nutrients and soil amendments in the amounts determined by soil tests shall be applied to the redistributed surface soil layer, so that it supports the approved post-mining land use and meets the revegetation requirements of Sections 816.111-816.117. All soil tests shall be performed by a qualified laboratory using standard methods approved by the regulatory authority.

§816.41
Hydrologic balance: General requirements.

(a) Surface mining activities shall be planned and conducted to minimize changes to the prevailing hydrologic balance in both the mine plan and adjacent areas, in order to prevent long-term adverse changes in that balance that could result from those activities.

(b) Changes in water quality and quantity, in the depth to ground water, and in the location of surface water drainage channels shall be minimized so that the approved post-mining land use of the permit area is not adversely affected.

(c) In no case shall Federal and State water quality statutes, regulations, standards, or effluent limitations be violated.

(d) Operations shall be conducted to minimize water pollution and, where necessary, treatment methods shall be used to control water pollution.

(1) Each person who conducts surface mining activities shall emphasize mining and reclamation practices that prevent or minimize water pollution. Changes in flow of drainage shall be used in preference to the use of water treatment facilities.

(2) Acceptable practices to control and minimize water pollution include, but are not limited to --

(i) Stabilizing disturbed areas through land shaping;

(ii) Diverting runoff;

(iii) Achieving quickly germinating and growing stands of temporary vegetation;

(iv) Regulating channel velocity of water;

(v) Lining drainage channels with rock or vegetation;

(vi) Mulching;

(vii) Selectively placing and sealing acid-forming and toxic-forming materials; and

(viii) Selectively placing waste materials in backfill areas.

(3) If the practices listed at paragraph (d)(2) of this section are not adequate to meet the requirements of this Part, the person who conducts surface mining activities shall operate and maintain the necessary water treatment facilities for as long as treatment is required under this Part.

§816.42
Hydrologic balance: Water quality standards and effluent limitations.

(a)(1) All surface drainage from the disturbed area, including disturbed areas that have been graded, seeded, or planted, shall be passed through a sedimentation pond or a series of sedimentation ponds before leaving the permit area.

(2) Sedimentation ponds and other treatment facilities shall be maintained until the disturbed area has been restored and the vegetation requirements of Sections 816.111-816.117 are met and the quality of the untreated drainage from the disturbed area meets the applicable State and Federal water quality standards requirements for the receiving stream.

(3) The regulatory authority may grant exemptions from these requirements only when:

(A) The disturbed drainage area within the total disturbed area is small; and

(B) The person who conducts the surface mining activities demonstrates that sedimentation ponds and treatment facilities are not necessary for drainage from the disturbed drainage areas to meet the effluent limitations in the table below or the applicable State and Federal water quality requirements for downstream receiving waters.

(4) For the purposes of this Section only, disturbed area shall not include those areas in which only diversion ditches, sedimentation ponds, or roads are installed in accordance with this Part and the upstream area is not otherwise disturbed by the person who conducts the surface mining activities.

(5) Sedimentation ponds required by this Section shall be constructed in accordance with Section 816.46, in appropriate locations before beginning any surface mining activities in the affected drainage area.

(6) Where the sedimentation pond or series of sedimentation ponds is used so as to result in the mixing of drainage from the disturbed areas with drainage from other areas not disturbed by current surface coal mining and reclamation operations, the permittee shall achieve the effluent limitations set forth below for all of the mixed drainage when it leaves the permit area.

(7) Discharges of water from areas disturbed by surface mining activities shall be made in compliance with all Federal and State laws and regulations and, at a minimum, the following numerical effluent limitations:

Effluent limitations, in milligrams per liter (mg/l) except for pH

Effluent characteristics[1]	Maximum allowable[2]	Average of daily values for 30 consecutive discharge days[6]
Iron, total	7.0	3.5
Manganese, total[3]	4.0	2.0
Total suspended solids[4]	70.0	35.0
pH[5]	Within range of 6.0 to 9.0	------------

[1] To be determined according to collection and analytical procedures adopted by the Environmental Protection Agency's regulations for wastewater analyses (40 CFR 136).

[2] Based on representative sampling.

[3] The manganese limitations shall not apply to untreated discharges which are alkaline as defined by the Environmental Protection Agency (40 CFR 434).

[4] In Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming, total suspended solids limitations will be determined on a case-by-case basis, but they must not be greater than 45 mg/l (maximum allowable) and 30 mg/l (average of daily value for 30 consecutive discharge days) based on a representative sampling.

[5] Where the application of neutralization and sedimentation treatment technology results in inability to comply with the manganese limitations set forth, the regulatory authority may allow the pH level in the discharge to exceed to a small extent the upper limit of 9.0 in order that the manganese limitations will be achieved.

[6] Discharges from new sources, as defined under 40 CFR section 434.11(i), shall be limited to 6.0 mg/l (maximum allowable), 3.0 mg/l (average of daily values for 30 consecutive discharge days).

(b) A discharge from the disturbed areas is not subject to the effluent limitations of this Section, if-

(1) The discharge is demonstrated by the discharger to have resulted from a precipitation event equal to or larger than a 10-year 24-hour precipitation event; and

(2) The discharge is from facilities designed, constructed, and maintained in accordance with the requirements of this Part.

(c) Adequate facilities shall be installed, operated, and maintained to treat any water discharged from the disturbed area so that it complies with all Federal and State laws and regulations and the limitations of this Section. If the pH of water to be discharged from the disturbed area is less than 6.0, an automatic lime feeder or other automatic neutralization process approved by the regulatory authority shall be installed, operated, and maintained. The regulatory authority may authorize the use of a manual system, if it finds that-

(1) Flow is infrequent and presents small and infrequent treatment requirements to meet applicable standards which do not require use of an automatic neutralization process; and

(2) Timely and consistent treatment is ensured.

§816.43
Hydrologic balance: Diversions and conveyance of overland flow shallow ground water flow.

Overland flow, including flow through litter, and shallow ground water flow from undisturbed areas, and flow in ephemeral streams, may be diverted away from disturbed areas by means of temporary or permanent diversions, if required or approved by the regulatory authority as necessary to minimize erosion, to reduce the volume of water to be treated, and to prevent or remove water from contact with acid-forming or toxic-forming materials. The following requirements shall be met for all diversions and for all collection drains that are used to transport water into water-treatment facilities and for all diversions of overland and shallow ground water flow--

(a) Temporary diversions shall be constructed to pass safely the peak runoff from a precipitation event with a 2-year recurrence interval, or a larger event as specified by the regulatory authority.

(b) To protect fills and property and to avoid danger to public health and safety, permanent diversions shall be constructed to pass safely the peak runoff from a precipitation event with a 10-year recurrence interval, or a larger event as specified by the regulatory authority. Permanent diversions shall be constructed with gently sloping banks that are stabilized by vegetation. Asphalt, concrete, or other similar linings shall be used only when approved by the regulatory authority to prevent seepage or to provide stability.

(c) Diversions shall be designed, constructed, and maintained in a manner which prevents additional contributions of suspended solids to streamflow and to runoff outside the permit area, to the extent possible using the best technology currently available. Appropriate sediment control measures for these diversions may include, but not be limited to, maintenance of appropriate gradients, channel lining, revegetation, roughness structures, and detention basins.

(d) No diversion shall be located so as to increase the potential for land slides. No diversion shall be constructed on existing land slides, unless approved by the regulatory authority.

(e) When no longer needed, each temporary diversion shall be removed and the affected land regraded, topsoiled, and

revegetated in accordance with Sections 816.24, 816.25, 816.101-.105, and 816.111-816.117.

(f) Diversion design shall incorporate the following:

(1) Channel lining shall be designed using standard engineering practices to safely pass the design velocities. Riprap shall comply with the requirements of Section 816.72(b)(5).

(2) Freeboard shall be no less than 0.3 feet. Protection shall be provided for transition of flows and for critical areas such as swales and curves. Where the area protected is a critical area as determined by the regulatory authority, the design freeboard may be increased.

(3) Energy dissipators shall be installed when necessary at discharge points where diversions intersect with natural streams when exit velocity of the diversion ditch flow is greater than that of the receiving stream.

(4) Excess excavated material not necessary for diversion channel geometry or regrading of the channel shall be disposed of in accordance with 30 CFR 816.71-816.73.

(5) Topsoil shall be handled in compliance with 30 CFR 816.21-816.25.

(g) Diversions shall not be constructed or operated to divert water into underground mines without the approval of the regulatory authority under Section 816.55.

§816.44
Hydrologic balance: Stream channel diversions.

(a) Flow from perennial and intermittent streams within the permit area may be diverted, if the diversions --

(1) Are approved by the regulatory authority after making the findings called for in Section 816.57.

(2) Comply with other requirements of this Subchapter; and

(3) Comply with local, State, and Federal statutes and regulations.

(b) When streamflow is allowed to be diverted, the stream channel diversion shall be designed, constructed, and removed, in accordance with the following:

(1) The longitudinal profile of the stream, the channel and the floodplain shall be designed and constructed to remain stable and to prevent, to the extent possible using the best technology currently available, additional contributions of suspended solids to streamflow or to runoff outside the permit area. These contributions shall not be in excess of requirements of State or Federal law. Erosion control structures such as channel lining structures, retention basins, and artificial channel roughness structures shall be used in diversions only when approved by the regulatory authority as being necessary to control erosion. These structures shall be approved for permanent diversions only where they are stable and will require infrequent maintenance.

(2) The combination of channel, bank, and flood-plain configurations shall be adequate to pass safely the peak runoff of a 10-year, 24-hour precipitation event for temporary diversions, a 100-year, 24-hour precipitation event for permanent diversions, or larger events specified by the regulatory authority. However, the capacity of the channel itself should be at least equal to the capacity of the unmodified stream channel immediately upstream and downstream of the diversion.

(c) When no longer needed to achieve the purpose for which they were authorized, all temporary stream channel diversions shall be removed and the affected land regraded and revegetated, in accordance Sections 816.24, 816.25, 816.101-816.105, and 816.111-816.117. At the time diversions are removed, downstream water treatment facilities previously protected by the diversion shall be modified or removed to prevent overtopping or failure of the facilities. This requirement shall not relieve the person who conducts the surface mining activities from maintenance of a water treatment facility otherwise required under this Part or the permit.

(d) When permanent diversions are constructed or stream channels restored, the operator shall;

1. Establish or restore, natural riparian vegetation on the banks of the stream;
2. Establish or restore the stream to its natural meandering shape of an environmentally acceptable gradient as determined by the regulatory authority;
3. Establish or restore the stream to a longitudinal profile and cross-section, including aquatic habitats (usually a pattern of riffles, pools, and drops rather than uniform depth) that approximate premining stream channel characteristics.

§816.45
Hydrologic balance: Sediment control measures.

Appropriate sediment control measures shall be designed, constructed, and maintained using the best technology currently available to:

(i) prevent to the extent possible additional contributions of sediment to streamflow or to runoff outside the permit area,

(ii) meet the more stringent of applicable State or Federal effluent limitations,

(iii) minimize erosion to the extent possible.

Sediment control measures include practices carried out within and adjacent to the disturbed area. The sedimentation storage capacity of practices in and downstream from the disturbed area shall reflect the degree to which successful mining and reclamation techniques are applied to reduce erosion and control sediment. Sediment control measures consist of the utilization of proper mining and reclamation methods and sediment control practices, singly or in combination. Sediment control methods include but are not limited to --

(a) Disturbing the smallest practicable area at any one time during the mining operation through progressive backfilling, grading, and prompt revegetation as required in Section 816.111(b);

(b) Stabilizing the backfill material to promote a reduction in the rate and volume of runoff, in accordance with the requirements of Section 816.101;

(c) Retaining sediment within disturbed areas;

(d) Diverting runoff away from disturbed areas;

(e) Diverting runoff using protected channels or pipes through disturbed areas so as not to cause additional erosion;

(f) Using straw dikes, riprap, check dams, mulches, vegetative sediment filters, dugout ponds, and other measures that reduce overland flow velocity, reduce runoff volume, or trap sediment; and

(g) Treating with chemicals.

§816.46
Hydrologic balance: Sedimentation ponds.

(a) General requirements. Sedimentation ponds shall be used individually or in series and shall --

(1) Be constructed before any disturbance of the undisturbed area to be drained into the pond;

(2) Be located as near as possible to the disturbed area and out of perennial streams; unless approved by the regulatory authority.

(3) Meet all the criteria of this Section.

(b) Sediment storage volume. Sedimentation ponds shall provide a minimum sediment storage volume equal to --

(1) The accumulated sediment volume from the drainage area to the pond for a minimum of 3 years. Sediment storage volume shall be determined using the Universal Soil Loss Equation, gully erosion rates, and the sediment delivery ratio converted to sediment volume using the sediment density, or other empirical methods derived from regional sediment pond studies may be used if approved by regulatory authority; or

(2) 0.1 acre-foot for each acre of disturbed area within the upstream drainage area or a greater amount based upon sediment yield to the pond if required by the regulatory authority. The regulatory authority may approve a sediment storage volume of no less than .035 acre-foot for each acre of disturbed area within the upstream drainage area, if the person who conducts the surface mining activities demonstrates that sediment removed by other sediment control measures is equal to the reduction in sediment storage volume.

(c) Detention time. Sedimentation ponds shall provide the required theoretical detention time for the water inflow or runoff entering the pond from a 10-year, 24-hour precipitation event (design event). Theoretical detention time is defined as the average time that the design flow is detained in the pond; and is further defined as the time difference between the centroid of the inflow hydrograph and the centroid of the outflow hydrograph for the design event.

Runoff diverted under Sections 816.43 and 816.44, away from the disturbed drainage areas and not passed through the sedimentation pond need not be considered in sedimentation pond design. In determining the runoff volume, the characteristics of the mine site, reclamation procedures, and onsite sediment control practices shall be considered. Sedimentation ponds shall provide a theoretical detention time of not less than twenty-four hours, or any higher amount required by the regulatory authority, except as provided under (1), (2), or (3) of this subsection.

(1) The regulatory authority may approve a theoretical detention time of not less than 10 hours, when the person who conducts the surface mining activities demonstrates that --

(i) The improvement in sediment removal efficiency is equivalent to the reduction in detention time as a result of pond design. Improvements in pond design may include but are not limited to pond configuration, in-flow and out-flow facility locations, baffles to decrease in-flow velocity and short-circuiting, and surface areas; and

(ii) The pond effluent is shown to achieve and maintain applicable effluent limitations.

(2) The regulatory authority may approve a theoretical detention time of not less than 10 hours when the person who conducts the surface mining activities demonstrates that the size distribution or the specific gravity of the suspended matter is such that applicable effluent limitations are achieved and maintained.

(3) The regulatory authority may approve a theoretical detention time of less than 24 hours to any level of detention time, when the person who conducts the surface mining activities demonstrates to the regulatory authority that the chemical treatment process to be used --

(i) Will achieve and maintain the effluent limitations; and

(ii) Is harmless to fish, wildlife and related environmental values.

(4) The calculated theoretical detention time and all supporting documentation and drawings used to establish the required detention times under paragraphs (c) (1)-(3) of this section shall be included in the permit application.

(d) Dewatering. The water storage resulting from inflow shall be removed by a nonclogging dewatering device or a conduit spillway approved by the regulatory authority, and shall have a discharge rate to achieve and maintain the required theoretical detention time. The dewatering device shall not be located at a lower elevation than the maximum elevation of the sedimentation storage volume.

(e) Each person who conducts surface mining activities shall design, construct, and maintain sedimentation ponds to prevent short-circuiting to the extent possible.

(f) The design, construction, and maintenance of a sedimentation pond or other sediment control measures in accordance with this Section shall not relieve the person from compliance with applicable effluent limitations as contained in 30 CFR 816.42.

(g) There shall be no out-flow through the emergency spillway during the passage of the runoff resulting from the 10-year, 24-hour precipitation event or lesser events through the sedimentation pond.

(h) Sediment shall be removed from sedimentation ponds when the volume of sediment accumulates to 60 percent of the design sediment storage volume. With the approval of the regulatory authority, additional permanent storage may be provided for sediment and/or water above that required for the design sediment storage. Upon the approval of the regulatory authority for those cases where additional permanent storage is provided above that required for sediment under paragraph (b) of this Section, sediment removal may be delayed until the remaining volume of permanent storage has decreased to 40 percent of the total sediment storage volume provided the theoretical detention time is maintained.

(i) An appropriate combination of principal and emergency spillways shall be provided to discharge safely the runoff from a 25-year, 24-hour precipitation event, or larger event specified by the regulatory authority. The elevation of the crest of the emergency spillway shall be a minimum of 1.0 foot above the crest of the principal spillway. Emergency spillway grades and allowable velocities shall be approved by the regulatory authority.

(j) The minimum elevation at the top of the settled embankment shall be 1.0 foot above the water surface in the pond with the emergency spillway flowing at design depth. For embankments subject to settlement, this 1.0 foot minimum elevation requirement shall apply at all times, including the period after settlement.

(k) The constructed height of the dam shall be increased a minimum of 5 percent over the design height to allow for settlement, unless it has been demonstrated to the regulatory authority that the material used and the design will ensure against all settlement.

(l) The minimum top width of the embankment shall not be less than the quotient of (H + 35)/5, where H is the height, in feet, of the embankment as measured from the upstream toe of the embankment.

(m) The combined upstream and downstream side slopes of the settled embankment shall not be less than 1 v :5 h, with neither slope steeper than 1v:2h, . Slopes shall be designed to be stable in all cases, even if flatter side slopes are required.

(n) The embankment foundation area shall be cleared of all organic matter, all surfaces sloped to no steeper than 1 v :1 h , and the entire foundation surface scarified.

(o) The fill material shall be free of sod, large roots, other large vegetative matter, and frozen soil, and in no case shall coal-processing waste be used.

(p) The placing and spreading of fill material shall be started at the lowest point of the foundation. The fill shall be brought up in horizontal layers of such thickness as is required to facilitate compaction and meet the design requirements of this Section. Compaction shall be conducted as specified in the design approved by the regulatory authority.

(q) If a sedimentation pond has an embankment that is more than 20 feet in height, as measured from the upstream toe of the embankment to the crest of the emergency spillway, or has a storage volume of 20 acre-feet or more, the following additional requirements shall be met:

(1) An appropriate combination of principal and emergency spillways shall be provided to safely discharge the runoff resulting from a 100-year, 24-hour precipitation event, or a larger event specified by the regulatory authority.

(2) The embankment shall be designed and constructed with a static safety factor of at least 1.5, or a higher safety factor as designated by the regulatory authority to ensure stability.

(3) Appropriate barriers shall be provided to control seepage along conduits that extend through the embankment.

(4) The criteria of the Mine Safety and Health Administration as published in 30 CFR 77.216 shall be met.

(r) Each pond shall be designed and inspected during construction under the supervision of, and certified after construction by, a registered professional engineer.

(s) The entire embankment including the surrounding areas disturbed by construction shall be stabilized with respect to erosion by a vegetative cover or other means immediately after the embankment is completed. The active, upstream face of the embankment where water will be impounded may be riprapped or otherwise stabilized. Areas in which the vegetation is not successful or where rills and gullies develop shall be repaired and revegetated in accordance with Section 816.106.

(t) All ponds, including those not meeting the size or other criteria of 30 CFR 77.216(a), shall be examined for structural weakness, erosion, and other hazardous conditions, and reports and modifications shall be made to regulatory authority, in accordance with 30 CFR 77.216-3. With the approval of the regulatory authority, dams not meeting these criteria (30 CFR 77.216(a)) shall be examined four times per year.

(u) Sedimentation ponds shall not be removed until the disturbed area has been restored, and the vegetation requirements of Section 816.111-816.117 are met and the drainage entering the pond has met the applicable State and Federal water quality requirements for the receiving stream. When the sedimentation pond is removed, the affected land shall be regraded and revegetated in accordance with Sections 816.100, 816.105, and 816.111-816.117, unless the pond has been approved by the regulatory authority for retention as being compatible with the approved postmining land use under Section 816.133. If the regulatory authority approves retention, the sedimentation pond shall meet all the requirements for permanent impoundments of Sections 816.49 and 816.56.

§816.47
Hydrologic balance: Discharge structures.

Discharge from sedimentation ponds, permanent and temporary impoundments, coal processing waste dams and embankments, and diversions shall be controlled, by energy dissipators, riprap channels, and other devices, where necessary, to reduce erosion, to prevent deepening or enlargement of stream channels, and to minimize disturbance of the hydrologic balance. Discharge structures shall be designed according to standard engineering-design procedures.

§816.48
Hydrologic balance: Acid-forming and toxic-forming spoil.

Drainage from acid-forming and toxic-forming spoil into ground and surface water shall be avoided by --

(a) Identifying, burying, and treating where necessary, spoil which, in the judgment of the regulatory authority, may be detrimental to vegetation or that may adversely affect water quality if not treated or buried;

(b) Preventing water from coming into contact with acid-forming and toxic-forming spoil in accordance with Section 816.103, and other measures as required by the regulatory authority; and

(c) Burying or otherwise treating all acid-forming or toxic-forming spoil within 30 days after it is first exposed on the mine site, or within a lesser period required by the regulatory authority. Temporary storage of the spoil may be approved by the regulatory authority upon a finding that burial or treatment within 30 days is not feasible and will not result in any material risk of water pollution or other environmental damage. Storage shall be limited to the period until burial or treatment first becomes feasible. Acid-forming or toxic-forming spoil to be stored shall be placed on impermeable material and protected from erosion and contact with surface water.

§816.49
Hydrologic balance: Permanent and temporary impoundments.

(a) Permanent impoundments are prohibited unless authorized by the regulatory authority, upon the basis of the following demonstration:

(1) The quality of the impounded water shall be suitable on a permanent basis for its intended use, and discharge of water from the impoundment shall not degrade the quality of

receiving waters to less than the water-quality standards established pursuant to applicable State and Federal laws.

(2) The level of water shall be sufficiently stable to support the intended use.

(3) Adequate safety and access to the impounded water shall be provided for proposed water users.

(4) Water impoundments shall not result in the diminution of the quality or quantity of water used by adjacent or surrounding landowners for agricultural, industrial, recreational, or domestic uses.

(5) The design, construction, and maintenance of structures shall achieve the minimum design requirements applicable to structures constructed and maintained under the Watershed Protection and Flood Prevention Act, Pub. L. 83-566 (16 U.S.C. 1006). Requirements for impoundments that meet the size or other criteria of the Mine Safety and Health Administration, 30 CFR 77-126(a) are contained in U.S. Soil Conservation Service Technical Release No. 60, "Earth Dams and Reservoirs," June 1976. Requirements for impoundments that do not meet the size or other criteria contained in 30 CFR 77.216(a) are contained in U.S. Soil Conservation Service Practice Standard 378, "Ponds," October 1978. The technical release and practice standard are hereby incorporated by reference as they exist on the date of adoption of this Part. Notices of changes made in these publications will be periodically published by OSM in the Federal Register. Persons designing and constructing impoundments should obtain a copy of these publications. Technical Release No. 60 and Practice Standard 378 are on file and available for inspection at the OSM Central Office, U.S. Department of the Interior, South Interior Bldg., 1951 Constitution Ave., N.W., Washington, D.C. 20240, at each OSM Regional Office, District Office, and Field Office and at the Central Office of the applicable State regulatory authority, if any. Copies of the publications may also be obtained by written request to the above locations. Incorporation-by-reference provisions have been approved by the Director of the Federal Register (date to be inserted).

(6) The size of the impoundment is adequate for its intended purposes.

(7) The impoundment will be suitable for the approved post-mining land use.

(b) Temporary impoundments of water in which the water is impounded by a dam shall meet the requirements of 30 CFR-816.46(e)-(u).

(c) Excavations that will impound water during or after the mining operation shall have perimeter slopes that are stable and shall not be steeper than 2 h:1 v. Where surface runoff enters the impoundment area, the side slope shall be protected against erosion.

(d) Slope protection shall be provided to minimize surface erosion at the site and sediment control measures shall be required where necessary to reduce the sediment leaving the site.

(e) All embankments of temporary and permanent impoundments, and the surrounding areas and diversion ditches disturbed or created by construction, shall be graded, fertilized, seeded, and mulched to comply with the requirements of 30 CFR 816.111-816.117 immediately after the embankment is completed, provided that the active, upstream face of the embankment where water will be impounded may be riprapped or otherwise stabilized. Areas in which the vegetation is not successful or where rills and gullies develop shall be repaired and revegetated to comply with the requirements of 30 CFR 816.106 and 30 CFR 816.111-816.117.

(f) All dams and embankments meeting the size or other criteria of 30 CFR 77.216(a) shall be routinely inspected by a qualified registered professional engineer, or by someone under the supervision of a qualified registered professional engineer, in accordance with 30 CFR 77.216-3.

(g) All dams and embankments shall be routinely maintained during the mining operations. Vegetative growth shall be cut where necessary to facilitate inspection and repairs. Ditches and spillways shall be cleaned. Any combustible material present on the surface, other than material such as mulch or dry vegetation used for surface stability, shall be removed and all other appropriate maintenance procedures followed.

(h) All dams and embankments that meet or exceed the size or other criteria of 30 CFR 77.216(a) shall be certified to the regulatory authority by a qualified registered professional engineer, immediately after construction and annually thereafter, as having been constructed and/or maintained to comply with the requirements of this Section. All dams and embankments that do not meet the size or other criteria of 30 CFR 77.216(a) shall be certified by either a qualified registered professional engineer or a registered land surveyor, except that all coal processing waste dams and embankments covered by 30 CFR 816.91 - 816.93 shall be certified by a qualified registered professional engineer. Certification reports shall include statements on--

(1) Existing and required monitoring procedures and instrumentation;

(2) The design depth and elevation of any impounded waters at the time of the initial certification report or the average and maximum depths and elevations of any impounded waters over the past year for the annual certification reports;

(3) Existing storage capacity of the dam or embankment;

(4) Any fires occurring in the construction material up to the date of the initial certification or over the past year for the annual certification reports; and

(5) Any other aspects of the dam or embankment affecting stability.

(i) Plans for any enlargement, reduction in size, reconstruction, or other modification of dams or impoundments shall be submitted to the regulatory authority and shall comply with the requirements of this Section. Except where a modification is required to eliminate an emergency condition constituting a hazard to public health, safety, or the environment, the regulatory authority shall approve the plans before modification begins.

§816.50
Hydrologic balance: Ground water protection.

(a) Backfilled materials shall be placed so as to minimize contamination of ground water systems with acid, toxic, or otherwise harmful mine drainage, to minimize adverse effects of mining on ground water systems outside the permit area, and to support approved post-mining land uses.

(b) To control the effects of mine drainage, pits, cuts, and other, mine excavation or disturbances shall be located, designed, constructed, and utilized in such manner as to prevent or control discharge of acid, toxic, or otherwise harmful mine drainage waters into ground water systems and to prevent adverse impacts on such ground water systems or on approved post-mining land uses.

§816.51
Hydrologic balance: Protection of ground water recharge capaci

Surface mining activities shall be conducted in a manner that facilitates reclamation which will restore approximate pre-mining recharge capacity, through restoration of the capability of the reclaimed areas as a whole, excluding coal processing waste and refuse disposal areas and fills, to transmit water to the ground water system. The recharge capacity shall be restored to a condition which --

(a) Supports the approved post-mining land use;

(b) Minimizes disturbances to the prevailing hydrologic balance in the mine plan area and in adjacent areas; and

(c) Provides a rate of recharge that approximates the pre-mining recharge rate.

§816.52
Hydrologic balance: Surface and ground water monitoring.

(a) Ground water.

(1) Ground water levels, infiltration rates, subsurface flow and storage characteristics, and the quality of ground water shall be monitored in a manner approved by the regulatory authority, to determine the effects of surface mining activities on the recharge capacity of reclaimed lands and on the quantity and quality of water in ground water systems in the mine plan and adjacent areas.

(2) When surface mining activities may affect the ground water systems which serve as aquifers which significantly ensure the hydrologic balance of water use on or off the mine plan area, ground water levels and ground water quality shall be periodically monitored. Monitoring shall include measurements from a sufficient number of wells and mineralogical and chemical analyses of aquifer, overburden, and spoil that are adequate to reflect changes in ground water quantity and quality resulting from those activities. Monitoring shall be adequate to plan for modification of surface mining activities if necessary, to minimize disturbance of the prevailing hydrologic balance.

(3) As specified and approved by the regulatory authority, the person who conducts surface mining activities shall conduct additional hydrologic tests, including drilling, infiltration tests, and aquifer tests and shall submit the results to the regulatory authority, to demonstrate compliance with Sections 816.50-816.52.

(b) Surface water.

(1) Surface water monitoring shall be conducted in accordance with the monitoring program submitted under 30 CFR 780.21 (b)(4) and approved by the regulatory authority. The regulatory authority shall determine the nature of data, frequency of collection, and reporting requirements. Monitoring shall --

(i) Be adequate to measure accurately and record water quantity and quality of the discharges from the permit area;

(ii) In all cases in which analytical results of the sample collections indicate noncompliance with a permit condition or applicable standard has occurred, shall result in the person who conducts a surface mining activity notifying the regulatory authority within 5 days. Where a National Pollutant Discharge Elimination System (NPDES) permit effluent limitation noncompliance has occurred, the person who conducts surface mining activities shall forward the analytic results concurrently with the written notice of noncompliance.

(iii) Result in quarterly reports to the regulatory authority, to include analytical results from each sample taken during the quarter. Any sample results which indicate a permit violation will be reported immediately to the regulatory authority. In those cases where the discharge for which water monitoring reports are required is also subject to regulation by a NPDES permit issued under the Clean Water Act of 1977 (30 U.S.C. 1251-1378) and where such permit includes provisions for equivalent reporting requirements and requires filing of the water monitoring reports within 90 days or less of sample collection, the following alternative procedure shall be used. The person who conducts the surface mining activities shall submit to the regulatory authority on the same time schedule as required by the NPDES permit or within 90 days following sample collection, whichever is earlier, either-

(a) A copy of the completed reporting form filed to meet NPDES permit requirements; or

(b) A letter identifying the State or Federal government official with whom the reporting form was filed to meet NPDES permit requirements and the date of filing.

(2) After disturbed areas have been regraded and stabilized according to this Part, the person who conducts surface mining activities shall monitor surface water flow and quality. Data from this monitoring may be used to demonstrate that the quality and quantity of runoff without treatment is consistent with the requirements of this Part to minimize disturbance to the prevailing hydrologic balance and attain the approved post-mining land use. These data may also provide a basis for approval by the regulatory authority for removal of water quality or flow control systems.

(3) Equipment, structures, and other devices necessary to measure and sample accurately the quality and quantity of surface water discharges from the disturbed area shall be

properly installed, maintained, and operated and shall be removed when no longer required.

§816.53
Hydrologic balance: Transfer of wells.

(a) An exploratory or monitoring well may only be transferred by the person who conducts surface mining activities for further use as a water well with the prior approval of the regulatory authority. That person and the surface owner shall submit a written request to the regulatory authority for that approval.

(b) Upon an approved transfer of a well, the transferee shall-

(1) Assume primary liability for damages to persons or property from the well;

(2) Plug the well when necessary, but in no case later than abandonment of the well; and

(3) Assume primary responsibility for compliance with Sections 816.13-816.15 with respect to the well.

(c) Upon an approved transfer of a well, the transferor shall be secondarily liable for the transferee's obligations under paragraph (b) of this section, until release of the bond or other equivalent guarantee required by Subchapter J for the area in which the well is located.

§816.54
Hydrologic balance: Water rights and replacement.

Any person who conducts surface mining activities shall replace the water supply of an owner of interest in real property who obtains all or part of his supply of water for domestic, agricultural, industrial, or other legitimate use from an underground or surface source, where the water supply has been affected by contamination, diminution, or interruption proximately resulting from the surface mining activities.

§816.55
Hydrologic balance: Discharge of water into an underground min

Surface water shall not be diverted or otherwise discharged into underground mine workings, unless the person who conducts the surface mining activities demonstrates to the regulatory authority that this will --

(a) Abate water pollution or otherwise eliminate public hazards resulting from surface mining activities; and

(b) Be discharged as a controlled flow, meeting the effluent limitations of Section 816.42 for pH and total suspended solids, except that the pH and total suspended solid limitations may be exceeded, if approved by the regulatory authority, and is limited to --

(1) Coal processing waste;

(2) Fly ash from a coal-fired facility;

(3) Sludge from an acid drainage treatment facility;

(4) Flue gas desulfurization sludge;

(5) Inert materials used for stabilizing underground mines or;

(6) Underground mine development wastes;

(c) In any event, the discharge from underground mines to surface waters will not cause, result in or contribute to a violation of applicable water quality standards or effluent limitations;

(d) Minimizes disturbance to the hydrologic balance; and
(e) Meets with the approval of the Mine Safety and Health Administration.

§816.56
Hydrologic balance: Postmining rehabilitation of sedimentation ponds, diversions, impoundments, and treatment facilities.

Before abandoning the permit area, the person who conducts the surface mining activities shall renovate all permanent sedimentation ponds, diversions, impoundments, and treatment facilities to meet criteria specified in the detailed design plan for the permanent structures and impoundments.

§816.57
Hydrologic balance: Stream buffer zones.

(a) No land within 100 feet of a perennial stream or a stream with a biological community measured according to (c) below shall be disturbed by surface mining activities, except in accordance with Section 816.44, unless the regulatory authority specifically authorizes surface mining activities closer to or through such a stream upon finding --

(1) That the original stream channel will be restored; and

(2) During and after the mining, the water quantity and quality from the stream section within 100 feet of the surface mining activities shall not be adversely affected.

(b) The area not to be disturbed shall be designated a buffer zone and marked as specified in Section 816.11.

(c) A stream with a biological community shall be determined by the existence in the stream at any time of an assemblage of two or more species of arthropods or mulluscan animals which are--

(1) Adapted to flowing water for all or part of their life cycle;

(2) Dependent upon a flowing water habitat;

(3) Reproducing or can reasonable be expected to reproduce in the water body where they are found; and

(4) Longer than 2 millimeters at some stage of the part of their life cycle spent in the flowing water habitat.

§816.59
Coal recovery.

Surface mining activities shall be conducted so as to maximize the utilization and conservation of the coal, while utilizing the best appropriate technology currently available to maintain environmental integrity, so that reaffecting the land in the future through surface coal mining operations is minimized.

§816.61
Use of explosives: General requirements.

(a) Each person who conducts surface mining activities shall comply with all applicable State and Federal laws in the use of explosives.

(b) Blasts that use more than 5 pounds of explosive or blasting agent shall be conducted according to the schedule required by Section 816.64.

(c) All blasting operations shall be conducted by experienced, trained, and competent persons who understand the hazards involved. Each person responsible for blasting operations shall possess a valid certification as required by 30 CFR 850.

§816.62
Use of explosives: Pre-blasting survey.

(a) On the request to the regulatory authority by a resident or owner of a dwelling or structure that is located within one-half mile of any part of the permit area, the person who conducts the surface mining activities shall promptly conduct a pre-blasting survey of the dwelling or structure and promptly submit a report of the survey to the regulatory authority and to the person requesting the survey. If a structure is renovated or added to, subsequent to a pre-blast survey, then upon request to the regulatory authority a survey of such additions and renovations shall be performed in accordance with this Section.

(b) The survey shall determine the condition of the dwelling or structure and document any pre-blasting damage and other physical factors that could reasonably be affected by the blasting. Assessments of structures such as pipes, cables, transmission lines, and wells and other water systems shall be limited to surface condition and readily available data. Special attention shall be given to the pre-blasting condition of wells and other water systems used for human, animal, or agricultural purposes and to the quantity and quality of the water.

(c) A written report of the survey shall be prepared and signed by the person who conducted the survey. The report may include recommendations of any special conditions or proposed adjustments to the blasting procedure which should be incorporated into the blasting plan to prevent damage. Copies of the report shall be provided to the person requesting the survey and to the regulatory authority. If the person requesting the survey disagrees with the results of the survey, he or she may notify, in writing, both the permittee and the regulatory authority of the specific areas of disagreement.

§816.64
Use of explosives: Public notice of blasting schedule.

(a) Blasting schedule publication.

(1) Each person who conducts surface mining activities shall publish a blasting schedule at least 10 days, but not more than 20 days, before beginning a blasting program in which blasts that use more than 5 pounds of explosive or blasting agent are detonated. The blasting schedule shall be published in a newspaper of general circulation in the locality of the blasting site.

(2) Copies of the schedule shall be distributed by mail to local governments and public utilities and by mail or delivered to each residence within one-half mile of the permit area described in the schedule. For the purposes of this section, the permit area does not include haul or access roads, preparation and loading facilities, transportation facilities between coal excavation areas and coal preparation or loading facilities, if blasting is not conducted in these areas. Copies sent to residences shall be accompanied by information advising the owner or resident how to request a pre-blasting survey.

(3) The person who conducts the surface mining activities shall republish and redistribute the schedule by mail at least every 12 months.

(b) Blasting schedule contents.

(1) A blasting schedule shall not be so general as to cover the entire permit area or all working hours, but shall identify as accurately as possible the location of the blasting sites and the time periods when blasting will occur.

(2) The blasting schedule shall contain at a minimum --

(i) Identification of the specific areas in which blasting will take place. Each specific blasting area described shall be reasonably compact and not larger than 300 acres;

(ii) Dates and time periods when explosives are to be detonated. These periods shall not exceed an aggregate of 4 hours in any one day;

(iii) Methods to be used to control access to the blasting area;

(iv) Types of audible warnings and all-clear signals to be used before and after blasting; and

(v) A description of unavoidable hazardous situations referred to in Section 816.65(b) which have been approved by the regulatory authority for blasting at times other than those described in the schedule.

(c) Public notice of changes to blasting schedules.

(1) Before blasting in areas or at times not in a previous schedule, the person who conducts the surface mining activities shall prepare a revised blasting schedule according to the procedures in paragraphs (a) and (b) of this Section. Where notice has previously been mailed to the owner or residents under paragraph (a)(2) of this Section with advice on requesting a pre-blast survey, the notice of change need not include information regarding pre-blast surveys.

(2) If there is a substantial pattern of non-adherence to the published blasting schedule as evidenced by the absence of blasting during scheduled periods, the regulatory authority may require that the person who conducts the surface mining activities prepare a revised blasting schedule according to the procedures in paragraph (c)(1) of this Section.

§816.65
Use of explosives: Surface blasting requirements.

(a) All blasting shall be conducted between sunrise and sunset.

(1) The regulatory authority may specify more restrictive time periods, based on public requests or other relevant information, according to the need to adequately protect the public from adverse noise.

(2) Blasting may, however, be conducted between sunset and sunrise if:

(i) a blast that has been prepared during the afternoon must be delayed due to the occurrence of an unavoidable hazardous condition and cannot be delayed until the next day because a potential safety hazard could result that cannot be adequately mitigated.

(ii) in addition to the required warning signals, oral notices are provided to persons within one-half mile of the blasting site; and

(iii) a complete written report of blasting at night is filed by the person conducting the surface mining activities with the regulatory authority not later than 3 days after the night blasting. The report shall include a description in detail of the reasons for the delay in blasting including why the blast could not be held over to the next day, when the blast was actually conducted, the warning notices given, and a copy of the blast report required by Section 816.68.

(b) Blasting shall be conducted at times announced in the blasting schedule, except in those unavoidable hazardous situations, previously approved by the regulatory authority in the permit application, where operator or public safety require unscheduled detonation.

(c) Warning and all-clear signals of different character that are audible within a range of one-half mile from the point of the blast shall be given. Each person within the permit area and each person who resides or regularly works within one-half mile of the permit area shall be notified of the meaning of the signals through appropriate instructions.

These instructions shall be periodically delivered or otherwise communicated in a manner which can be reasonably expected to inform such persons of the meaning of the signals. Each person who conducts surface mining activities shall maintain signs in accordance with Section 816.11(f).

(d) Access to an area possibly subject to flyrock from blasting shall be regulated to protect the public and livestock. Access to the area shall be controlled to prevent the presence of livestock or unauthorized personnel during blasting and until an authorized representative of the person who conducts the surface mining activities has reasonably determined-

(1) That no unusual circumstances, such as imminent slides or undetonated charges, exist; and

(2) That access to and travel in or through the area can be safely resumed

(e)(1) Airblast shall be controlled so that it does not exceed the values specified below at any dwelling, public building, school, church, or commercial or institutional structure, unless such structure is owned by the person who conducts the surface mining activities and is not leased to any other person. If a building owned by the person conducting surface mining activities is leased to another person, the lessee may sign a waiver relieving the operator from meeting the airblast limitations of this paragraph.

Lower frequency limit of measuring system, Hz (±3 dB)	Maximum level in dB
0.1 Hz or lower--flat response	135 peak.
2 Hz or lower--flat response	132 peak.
6 Hz or lower--flat response	130 peak.
C-weighted, slow response	109 C.

(2) In all cases except the C-weighted, slow-response, the measuring systems used shall have a flat frequency response of at least 200 Hz at the upper end. The C-weighted shall be measured with a Type 1 sound level meter that meets the standard American National Standards Institute (ANSI) S1.4-1971 specifications. The ANSI S1.4-1971 is hereby incorporated by reference as it exists on the date of adoption of this Part. Notices of changes made to this publication will be periodically published by OSM in the Federal Register. Persons using these instruments and other interested persons should obtain a copy of this publication. ANSI S1.4-1971 is on file and available for inspection at the OSM Central Office, U.S. Department of the Interior, South Interior Building, Washington, D.C. 20240, at each OSM Regional Office, District Office, and Field Office and at the central office of any applicable State regulatory authority. Copies of the publication may also be obtained by written request to the above locations. Incorporation by reference provisions approved by the Director of the Federal Register ________________ (date).

(3) The person who conducts blasting may satisfy the provisions of this Section by meeting any of the four specifications in the chart in paragraph (e)(1) of this Section.

(4) The regulatory authority may require an airblast measurement of any or all blasts, and may specify the location of such measurements.

(f) Except where lesser distances are approved by the regulatory authority, based upon a pre-blasting survey, seismic investigation, or other appropriate investigation, blasting shall not be conducted within-

(1) 1,000 feet of any building used as a dwelling, school, church, hospital, or nursing facility; and

(2) 500 feet of facilities including, but not limited to, disposal wells, petroleum or gas-storage facilities, municipal water-storage facilities, fluid-transmission pipelines, gas or oil-collection lines, or water and sewage lines.

(g) Flyrock, including blasted material traveling along the ground, shall not be cast from the blasting vicinity more than half the distance to the nearest dwelling or other occupied structure and in no case beyond the line of property owned or leased by the permittee, or beyond the area of regulated access required under paragraph (d) of this Section.

(h) Blasting shall be conducted to prevent injury to persons, damage to public or private property outside the permit area, adverse impacts on any underground mine, and change in the course, channel, or availability of ground or surface waters outside the permit area.

(i) In all blasting operations, except as otherwise authorized in this Section, the maximum peak particle velocity shall not exceed 1 inch per second at the location of any dwelling, public building, school, church, or commercial or institutional building. Peak particle velocities shall be recorded in 3 mutually perpendicular directions. The maximum peak particle velocity shall be the largest of any of the three measurements. The regulatory authority may reduce the maximum peak particle velocity allowed, if it determines that a lower standard is required because of density of population or land use, age or type of structure, geology or hydrology of the area, frequency of blasts, or other factors.

(j) If blasting is conducted to prevent adverse impacts on any underground mine and changes in the course, channel, or availability of ground or surface water outside the permit area, then the maximum peak particle velocity limitation of paragraph (i) of this Section shall not apply at the following locations:

(1) At structures owned by the person conducting the mining activity, and not leased to another party; and

(2) At structures owned by the person conducting the mining activity, and leased to another party, if a written waiver by the lessee is submitted to the regulatory authority prior to blasting.

(k) An equation for determining the maximum weight of explosives that can be detonated within any 8-millisecond period is in paragraph (l) of this Section. If the blasting is conducted in accordance with this equation, the peak particle velocity shall be deemed to be within the 1-inch-per-second limit.

(l) (1) The maximum weight of explosives to be detonated within any 8-millisecond period may be determined by the formula W = (D /60) G2 2 G1 where W = the maximum weight of explosives, in pounds, that can be detonated in any 8-millisecond period, and D = the distance, in feet, from the blast to the nearest dwelling, school, church, or commercial or institutional building.

(2) For distances between 300 and 5,000 feet, solution of the equation results in the following maximum weight:

Distance, in feet (D)	Maximum weight, in pounds (W)	Distance, in feet (D)	Maximum weight, in pounds (W)
300	25	1,500	625
350	34	1,600	711
400	44	1,700	803
500	69	1,800	900
600	100	1,900	1,002
700	136	2,000	1,111
800	178	2,500	1,736
900	225	3,000	2,500
1,000	278	3,500	3,403
1,100	336	4,000	4,444
1,200	400	4,500	5,625
1,300	469	5,000	6,944
1,400	544		

§816.67
Use of explosives: Seismographic measurements.

(a) Where a seismograph is used to monitor the velocity of ground motion and the peak particle velocity limit of 1 inch per second is not exceeded, the equation in Section 816.65(l) need not be used. If that equation is not used by the person conducting the surface mining activities, a seismograph record shall be obtained for each shot.

(b) The use of a modified equation to determine maximum weight of explosives per delay for blasting operations at a particular site, may be approved by the regulatory authority, on receipt of a petition accompanied by reports including seismograph records of test blasting on the site. In no case shall the regulatory authority approve the use of a modified equation where the peak particle velocity of 1 inch per second required in Section 816.65(i) would be exceeded.

(c) The regulatory authority may require a seismograph record of any or all blasts and may specify the location at which such measurements are taken.

§816.68
Use of explosives: Records of blasting operations.

A record of each blast, including seismograph reports, shall be retained for at least 3 years and shall be available for inspection by the regulatory authority and the public on request. The record shall contain the following data:

(a) Name of the operator conducting the blast.

(b) Location, date, and time of blast.

(c) Name, signature, and license number of blaster-in-charge.

(d) Direction and distance, in feet, to the nearest dwelling, school, church, or commercial or insitutional building either --

(1) Not located in the permit area; or

(2) Not owned nor leased by the person who conducts the surface mining activities.

(e) Weather conditions, including temperature, wind direction, and approximate velocity.

(f) Type of material blasted.

(g) Number of holes, burden, and spacing.

(h) Diameter and depth of holes.

(i) Types of explosives used.

(j) Total weight of explosives used.

(k) Maximum weight of explosives detonated within any 8-millisecond period.

(l) Maximum number of holes detonated within any 8-millisecond period.

(m) Initiation system.

(n) Type and length of stemming.

(o) Mats or other protections used.

(p) Type of delay detonator and delay periods used.
(q) Sketch of the delay pattern.
(r) Number of persons in the blasting crew.

(s) Seismographic records, where required, including the calibration signal of the gain setting and --

(1) Seismographic reading, including exact location of seismograph and its distance from the blast;

(2) Name of the person taking the seismograph reading; and

(3) Name of the person and firm analyzing the seismographic record.

§816.71
Disposal of excess spoil: General requirements.

(a) Spoil not required to achieve the approximate original contour within the area where overburden has been removed shall be hauled or conveyed to and placed in designated disposal areas within a permit area, if the disposal areas are authorized for such purposes in the approved permit in accordance with Sections 816.71-816.74. The spoil shall be placed in a controlled manner to ensure--

(1) That leachate and surface runoff from the fill will not degrade surface or ground waters or exceed the effluent limitations of Section 816.42;

(2) Stability of the fill; and

(3) That the land mass designated as the disposal area is suitable for reclamation and revegetation compatible with the natural surroundings.

(b) The fill shall be designed using recognized professional standards, certified by a registered professional engineer, and approved by the regulatory authority.

(c) All vegetative and organic materials shall be removed from the disposal area and the topsoil shall be removed, segregated, and stored or replaced under Sections 816.21-816.25. If approved by the regulatory authority, organic material may be used as mulch or may be included in the topsoil to control erosion, promote growth of vegetation, or increase the moisture retention of the soil.

(d) Slope protection shall be provided to minimize surface erosion at the site. Diversion design shall conform with the requirements of Section 816.43. All disturbed areas, including diversion ditches that are not rip-rapped, shall be vegetated upon completion of construction.

(e) The disposal areas shall be located on the most moderately sloping and naturally stable areas available as approved by the regulatory authority. If such placement provides additional stability and prevents mass movement, fill materials suitable for disposal shall be placed upon or above a natural terrace, bench, or berm.

(f) The spoil shall be hauled or conveyed and placed in horizontal lifts in a controlled manner, concurrently compacted as necessary to ensure mass stability and prevent mass movement, covered, and graded to allow surface and subsurface drainage to be compatible with the natural surroundings and ensure a long-term static factor of safety of 1.5.

(g) The final configuration of the fill must be suitable for postmining land uses approved in accordance with Section 816.133, except that no depressions or impoundments shall be allowed on the completed fill.

(h) Terraces may be utilized to control erosion and enhance stability if approved by the Regulatory Authority and consistent with Section 816.102(b).

(i) Where the slope in the disposal area exceeds 1 v :2.8 h (36 percent), or such lesser slope as may be designated by the regulatory authority based on local conditions, keyway cuts (excavations to stable bedrock) or rock toe buttresses shall be constructed to stabilize the fill. Where the toe of the spoil rests on a downslope, stability analyses shall be performed in accordance with Section 780.35(c) to determine the size of rock toe buttresses and key way cuts.

(j) The fill shall be inspected for stability by a registered engineer or other qualified professional specialist experienced in the construction of earth and rockfill embankments at least quarterly throughout construction and during the following critical construction periods: (1) removal of all organic material and topsoil, (2) placement of underdrainage systems, (3) installation of surface drainage systems, (4) placement and compaction of fill materials, and (5) revegetation. The registered engineer or other qualified professional specialist shall provide to the regulatory authority a certified report within 2 weeks after each inspection that the fill has been constructed as specified in the design approved by the regulatory authority. A copy of the report shall be retained at the minesite.

(k) Coal processing wastes shall not be disposed of in head-of-hollow or valley fills, and may only be disposed of in other excess spoil fills, if such waste is --

(1) Placed in accordance with section 816.85;

(2) Demonstrated to be nontoxic and nonacid forming; and

(3) Demonstrated to be consistent with the design stability of the fill.

(l) If the disposal area contains springs, natural or manmade watercourses, or wet-weather seeps, an underdrain system consisting of durable rock shall be constructed from the wet areas in a manner that prevents infiltration of the water into the spoil material. The underdrain system shall be protected by an adequate filter and shall be designed and constructed using standard geotechnical engineering methods.

(n) The foundation and abutments of the fill shall be stable under all conditions of construction and operation. Sufficient foundation investigation and laboratory testing of foundation materials shall be performed in order to determine the design requirements for stability of the foundation. Analyses of foundation conditions shall include the effect of underground mine workings, if any, upon the stability of the structure.

(o) Excess spoil may be returned to underground mine workings, but only in accordance with a disposal program approved by the regulatory authority and MSHA upon the basis of a plan submitted under 30 CFR 784.14.

§816.72
Disposal of excess spoil: Valley fills.

Valley fills shall meet all of the requirements of section 816.71 and the additional requirements of this section.

(a) The fill shall be designed to attain a long-term static factor of safety of 1.5 based upon data obtained from subsurface exploration, geotechnical testing, foundation design, and accepted engineering analyses.

(b) A subdrainage system for the fill shall be constructed in accordance with the following:

(1) A system of underdrains constructed of durable rock shall meet the requirements of paragraph (b)(5) of this Section and:

(i) Be installed along the natural drainage system;

(ii) Extend from the toe to the head of the fill; and

(iii) Contain lateral drains to each area of potential drainage or seepage.

(2) A filter system to insure the proper functioning of the rock underdrain system shall be designed and constructed using standard geotechnical engineering methods.

(3) In constructing the underdrains, no more than 10 percent of the rock may be less than 12 inches in size and no single rock may be larger than 25 percent of the width of the drain. Rock used in underdrains shall meet the requirements of paragraph (a)(5) of this section. The minimum size of the main underdrain shall be:

Total amount of fill material	Predominant type of fill material	Minimum size of drain, in feet	
		Width	Height
Less than 1,000,000 cubic yards--	Sandstone--------	10	4
Do---------------------------	Shale------------	16	8
More than 1,000,000 cubic yards--	Sandstone--------	16	8
Do---------------------------	Shale------------	16	16

(5) Underdrains shall consist of non-degradable, non-acid or toxic forming rock such as natural sand and gravel, sandstone, limestone, or other durable rock that will not slake in water and will be free of coal, clay or shale.

(c) (1) Spoil shall be hauled or conveyed and placed in a controlled manner and concurrently compacted as specified by the regulatory authority, in lifts no greater than 4 feet or less if required by the regulatory authority to-

(i) Achieve the densities designed to ensure mass stability;

(ii) Prevent mass movement;

(iii) Avoid contamination of the rock underdrain or rock core; and

(iv) Prevent formation of voids.

(d) Surface water runoff from the area above the fill shall be diverted away from the fill and into stabilized diversion channels designed to pass safely the runoff from a 100-year, 24-hour precipitation event or larger event specified by the regulatory authority. Surface runoff from the fill surface shall be diverted to stabilized channels off the fill which will safely pass runoff from a 100-year, 24-hour precipitation event. Diversion design shall comply with the requirements of section 816.43(f).

(e) The tops of the fill and any terrace constructed to stabilize the face shall be graded no steeper than 1 v :20 h (5 percent). The vertical distance between terraces shall not exceed 50 feet.

(f) Drainage shall not be directed over the outslope of the fill.

(g) The outslope of the fill shall not exceed 1 v :2 h (50 percent). The regulatory authority may require a flatter slope.

§816.73
Disposal of excess spoil: Head-of-hollow fills.

Disposal of spoil in the head-of-hollow fill shall meet all standards set forth in sections 816.71 and 816.72 and the additional requirements of this section.

(a) The fill shall be designed to completely fill the disposal site to the approximate elevation of the ridgeline. A rock-core chimney drain may be utilized instead of the subdrain and surface diversion system required for valley fills. If the crest of the fill is not approximately at the same elevation as the low point of the adjacent ridgeline, the fill must be designed as specified in section 816.72, with diversion of runoff around the fill. A fill associated with contour mining and placed at or near the coal seam, and which does not exceed 250,000 cubic yards may use the rock-core chimney drain.

(b) The alternative rock-core chimney drain system shall be designed and incorporated into the construction of head-of-hollow fills as follows:

(1) The fill shall have, along the vertical projection of the main buried stream channel or rill a vertical core of durable rock at least 16 feet thick which shall extend from the toe of the fill to the head of the fill, and from the base of the fill to the surface of the fill. A system of lateral rock underdrains shall connect this rock core to each area of potential drainage or seepage in the disposal area. Rocks used in the rock core and underdrains shall meet the requirements of section 816.72(b).

(2) A filter system to ensure the proper functioning of the rock core shall be designed and constructed using standard geotechnical engineering methods.

(3) The grading may drain surface water away from the outslope of the fill and toward the rock core. The maximum slope of the top of the fill shall be 1 v :33 h (3 percent). Instead of the requirements of section 816.71(g), a drainage pocket may be maintained at the head of the fill during and after construction, to intercept surface runoff and discharge the runoff through or over the rock drain, if stability of the fill is not impaired. In no case shall this pocket or sump have a potential for impounding more than 10,000 cubic feet of water. Terraces on the fill shall be graded with a 3- to 5-percent grade toward the fill and a 1-percent slope toward the rock core.

(c) The drainage control system shall be capable of safely passing the runoff from a 100-year, 24-hour precipitation event, or larger event specified by the regulatory authority.

816.73
Disposal of excess spoil: Durable rock fills.

In lieu of the requirements of 816.72 and 816.73, the regulatory authority may approve alternate methods for disposal of hard rock spoil, including fill placement by dumping in a single lift, on a site specific basis, provided the services of a registered professional engineer experienced in the design and construction of earth and rockfill embankments are utilized and provided the requirements of this section and section 816.71 are met. For this section, hard rock spoil shall be defined as rockfill consisting of at least 80 percent by volume of sandstone, limestone, or other rocks that do not slake in water. Resistance of the hard rock spoil to slaking shall be determined by using the slake index and slake durability tests in accordance with guidelines and criteria established by the regulatory authority.

(a) Spoil is to be transported and placed in a specified and controlled manner which will ensure stability of the fill.

(1) The method of spoil placement shall be designed to ensure mass stability and prevent mass movement in accordance with the additional requirements of this section.

(2) Loads of noncemented clay shale and/or clay spoil in the fill shall be mixed with hard rock spoil in a controlled manner to limit on a unit basis concentrations of noncemented clay shale and clay in the fill. Such materials shall comprise no more than 20 percent of the fill volume as determined by tests performed by a registered engineer and approved by the regulatory authority.

(b)(1) Stability analyses shall be made by the registered professional engineer. Parameters used in the stability analyses shall be based on adequate field reconnaissance, subsurface investigations, including borings, and laboratory tests.

(2) The embankment which constitutes the valley fill or head-of-hollow fill shall be designed with the following factors of safety:

Case	Design condition	Minimum factor and safety
I	End of construction	1.5
II	Earthquake	1.1

(c) The design of a head-of hollow fill shall include an internal drainage system which will ensure continued free drainage of anticipated seepage from precipitation and from springs or wet weather seeps.

(1) Anticipated discharge from springs and seeps and due to precipitation shall be based on records and/or field investigations to determine seasonal variation. The design of the internal drainage system shall be based on the maximum anticipated discharge.

(2) All granular material used for the drainage system shall be free of clay and consist of durable particles such as natural sands and gravels, sandstone, limestone or other durable rock which will not slake in water.

(3) The internal drain shall be protected by a properly designed filter system.

(d) Surface water runoff from the areas adjacent to and above the fill shall not be allowed to flow onto the fill and shall be diverted into stabilized channels which are designed to safely pass the runoff from a 100-year, 24-hour precipitation event. Diversion design shall comply with the requirements of Section 816.43(f).

(e) The top surface of the completed fill shall be graded such that the final slope after settlement will be no steeper than 1v: 20h (5 percent) toward properly designed drainage channels in natural ground along the periphery of the fill. Surface runoff from the top surface of the fill shall not be allowed to flow over the outslope of the fill.

(f) Surface runoff from the outslope of the fill shall be diverted off the fill to properly designed channels which will safely pass a 100-year, 24-hour precipitation event. Diversion design shall comply with the requirements of 816.43(f).

(g) Terraces shall be constructed on the outslope if required for control of erosion or for roads included in the approved postmining land use plan. Terraces shall meet the following requirements:

(1) The slope of the outslope between terrace benches shall not exceed 1v: 2h.

(2) To control surface runoff, each terrace bench shall be graded to a slope of 1v: 20h (5 percent) toward the embankment. Runoff shall be collected by a ditch along the intersection of each terrace bench and the outslope.

§816.79
Protection of underground mining.

(a) No surface coal mining activities shall be conducted closer than 500 feet to any point of either an active or abandoned underground mine, except to the extent that -

(1) The nature, timing, and sequence of the operations are jointly approved by the regulatory authority, the Mine Safety and Health Administration, and the State agency, if any, responsible for the safety of mine workers; and

(2) The activities result in improved resource recovery, abatement of water pollution, or elimination of hazards to the health and safety of the public.

(b) Surface mining activities shall be designed to protect disturbed surface areas, including spoil disposal sites, so as not to endanger any present or future operations of either other surface or underground mining activities.

§816.81
Coal processing waste banks: General requirements.

(a) All coal processing waste shall be hauled or conveyed and placed in new and existing disposal areas approved by the regulatory authority for this purpose. These areas shall be within a permit area. The disposal area shall be designed, constructed, and maintained-

(1) In accordance with sections 816.71 and 816.72, this section, and sections 816.82-816.88; and

(2) To prevent combustion.

(b) Coal processing waste materials from activities located outside a permit area, such as those activities at other mines or abandoned mine waste piles may be disposed of in the permit area only if approved by the regulatory authority. Approval shall be based on a showing by the person who conducts surface mining activities in the permit area, using hydrologic, geologic, physical, and chemical analysis, that disposal of these materials does not-

(1) Adversely affect water quality, water flow, or vegetation;

(2) Create public health hazards; or

(3) Cause instability in the disposal areas.

§816.82
Coal processing waste banks: Inspection.

(a) All coal processing waste banks shall be inspected, on behalf of the person conducting surface mining activities, by a qualified registered engineer or other person approved by the regulatory authority.

(1) Inspection shall occur at least quarterly, beginning within 7 days after preparation of the disposal area begins. The regulatory authority may require more frequent inspection based upon an evaluation of the potential danger to the health or safety of the public and the potential harm to land, air and water resources. Inspections may terminate when the coal processing waste bank has been graded, covered in accordance with section 816.85, topsoil has been distributed on the bank in accordance with section 816.24, or at such a later time as the regulatory authority may require.

(2) Inspections shall include such observations and tests as may be necessary to evaluate the potential hazard to human life and property, to ensure that all organic material and topsoil have been removed and that proper construction and maintenance are occurring in accordance with the plan submitted under 30 CFR 780.35 and approved by the regulatory authority.

(3) The engineer or other approved inspector shall consider steepness of slopes, seepage, and other visible factors which could indicate potential failure, and the results of failure with respect to the threat to human life and property.

(4) Copies of the inspection findings shall be maintained at the mine site.

(b) If any inspection discloses that a potential hazard exists, the regulatory authority shall be informed promptly of the finding and of the emergency procedures formulated for public protection and remedial action. If adequate procedures cannot be formulated or implemented, the regulatory authority shall be notified immediately. The regulatory authority shall then notify the appropriate emergency agencies that other emergency procedures are required to protect the public from the coal processing waste area.

§816.83
Coal processing waste banks: Water control measures.

(a) A properly designed subdrainage system shall be provided, which shall --

(1) Intercept all ground water sources;
(2) Be protected by an adequate filter; and
(3) Be covered so as to protect against the entrance of surface water or leachate from the coal processing waste.

(b) All surface drainage from the area above the coal processing waste bank and from the crest and face of the waste disposal area shall be diverted, in accordance with Section 816.72(d).

(c) Slope protection shall be provided to minimize surface erosion at the site. All disturbed areas, including diversion ditches that are not riprapped, shall be vegetated upon completion of construction.

(d) All water discharged from a coal processing waste bank shall comply with 30 CFR 816.41, 816.42, 816.45-816.46, 816.52, and 816.55.

§816.85
Coal processing waste banks: Construction requirements.

(a) Coal processing waste banks shall be constructed in compliance with Sections 816.71 and 816.72, except to the extent that the requirements of those Sections are varied in this section.

(b) Coal processing waste banks shall have a minimum static factor of safety of 1.5.

(c) Compaction requirements during construction or modification of all coal processing waste banks shall meet the requirements of this paragraph, instead of those specified in Section 816.72(c). The coal processing waste shall be-

(1) Spread in layers no more than 24 inches in thickness; and

(2) Compacted to attain 90 percent of the maximum dry density to prevent spontaneous combustion and to provide the strength required for stability of the coal processing waste bank. Dry densities shall be determined in accordance with the American Association of State Highway and Transportation Officials (AASHTO) Specification T-99 (Twelfth Edition) (July 1978) or an equivalent method. AASHTO T-99 is hereby incorporated by reference as it exists on the date of adoption of this Part. Notices of changes made to this publication will be periodically published by OSM in the Federal Register. AASHTO T-99 is on file and available for inspection at the OSM

Central Office, U.S. Department of the Interior, South Interior Building, Washington, D.C. 20240, at each OSM Regional Office, District Office, and Field Office, and at the central office of the applicable State Regulatory Authority, if any. Copies of this publication may also be obtained by written request to the above locations. Incorporation by reference provisions approved by the Director of the Federal Register (date).

(3) Variations may be allowed in these requirements for the disposal of dewatered fine coal waste (minus 28 sieve size) with approval of the regulatory authority.

(d) Following grading of the coal processing waste bank, the site shall be covered with a minimum of 4 feet of the best available non-toxic and non-combustible material, in accordance with 30 CFR 816.22(e), and in a manner that does not impede flow from subdrainage systems. The coal processing waste bank shall be revegetated in accordance with 816.111 - 816.117. The regulatory authority may allow less than 4 feet of cover material based on physical and chemical analyses which show that the requirements of sections 816.111-117 will be met.

§816.86
Coal processing waste: Burning.

Coal processing waste fires shall be extinguished by the person who conducts the surface mining activities, in accordance with a plan approved by the regulatory authority and the Mines Safety and Health Administration. The plan shall contain, as a minimum, provisions to ensure that only those persons authorized by the operator, and who have an understanding of the procedures to be used, shall be involved in the extinguishing operations.

§816.87
Coal processing waste: Burned waste utilization.

Before any burned coal processing waste, other materials, or refuse is removed from a disposal area, approval shall be obtained from the regulatory authority. A plan for the method of removal, with maps and appropriate drawings to illustrate the proposed sequence of the operation and method of compliance with this Part, shall be submitted to the regulatory authority. Consideration shall be given in the plan to potential hazards which may be created by removal to persons working or living in the vicinity of the structure. The plan shall be certified by a qualified engineer.

§816.88
Coal processing waste: Return to underground workings.

Coal processing waste may be returned to underground mine workings only in accordance with the waste disposal program approved by the regulatory authority and MSHA under 30 CFR 780.35.

§816.89
Disposal of noncoal wastes.

(a) Noncoal wastes including, but not limited to, grease, lubricants, paints, flammable liquids, garbage, abandoned mining machinery, lumber and other combustibles generated during surface mining activities shall be placed and stored in a controlled manner in a designated portion of the permit area. Placement and storage shall insure that leachate and surface runoff do not degrade surface or ground water, fires are prevented, and that the area remains stable and suitable for reclamation and revegetation compatible with the natural surroundings.

(b) Final disposal of noncoal wastes shall be in a designated disposal site in the permit area. Disposal sites shall be designed and constructed with appropriate water barriers on the bottom and sides of the designated site. Wastes shall be routinely compacted and covered to prevent combustion and wind-born waste. When the disposal is completed a minimum of 2 feet of soil cover shall be placed over the site, slopes stabilized, and revegetation accomplished in accordance with 30 CFR 816.111-816.117. Operation of the disposal site shall be conducted in accordance with all local, State, and Federal requirements.

(c) At no time shall any solid waste material be deposited at refuse embankments or impoundment sites, nor shall any excavation for solid waste disposal be located within 8 feet of any coal outcrop or coal storage area.

§816.91
Coal processing waste: Dams and embankments: General requireme

(a) Sections 816.91-816.93 apply to dams and embankments constructed of coal processing waste or intended to impound coal processing waste, whether they were completed before adoption of the regulatory program or are intended to be completed thereafter.

(b) Waste shall not be used in the construction of dams and embankments unless it has been demonstrated to the regulatory authority that the stability of such a structure conforms with the requirements of 30 CFR 816.93(a). It shall also be demonstrated that the use of waste material shall not have a detrimental effect on downstream water quality or the environment due to acid seepage through the dam or impoundment. All demonstrations shall be submitted to and approved by the regulatory authority.

§816.92
Coal processing waste: Dams and embankments: Site preparation.

Before coal processing waste is placed at a dam or embankment site--

(a) All trees, shrubs, grasses, and other organic material shall be cleared and grubbed from the site, and all combustibles shall be removed and stockpiled in accordance with the requirements of this Part; and

(b) Surface drainage that may cause erosion to the embankment area or the embankment features, whether during construction or after completion, shall be diverted away from the embankment by diversion ditches that comply with the requirements of 30 CFR 816.43. Adequate outlets for discharge from these diversions shall be in accordance with 30 CFR 816.47. Diversions that are designed to divert drainage from the upstream area away from the impoundment area shall be designed to carry the peak runoff from a 100-year, 24-hour precipitation event. The diversion shall be maintained to prevent blockage, and the discharge shall be in accordance with 30 CFR 816.47. Sediment control measures shall be provided at the discharge of each diversion ditch before entry into natural watercourses in accordance with 30 CFR 816.41-816.46.

§816.93
Coal processing waste: Dams and embankments: Design and constr

(a) The design of each dam and embankment constructed of coal processing waste or intended to impound such waste shall comply with the requirements of 30 CFR 816.49 (a)(5), (e), (f), (g), (h), and (i), modified as follows:

(1) The design freeboard between the lowest point on the embankment crest and the maximum water elevation shall be at least 3 feet. The maximum water elevation shall be that determined by the freeboard hydrograph criteria contained in the U.S. Soil Conservation Service criteria referenced in 30 CFR 816.49.

(2) The dam and embankment shall have a minimum safety factor of 1.5 for the partial pool with steady seepage saturation conditions, and the seismic safety factor shall be at least 1.2.

(3) The dam or embankment foundation and abutments shall be designed to be stable under all conditions of construction and operation of the impoundment. Sufficient foundation investigations and laboratory testing shall be performed to determine the safety factors of the dam or embankment for all loading conditions appearing in paragraph (a)(2) of this Section or the publications referred to in 30 CFR 816.49 and for all increments of construction.

(b) Spillways and outlet works shall be designed to provide adequate protection against erosion and corrosion. Inlets shall be protected against blockage.

(c) Dams or embankments constructed for impounding waste materials shall be designed so that at least 90 percent of the water stored during the design precipitation event shall be removed within a 10-day period.

§816.95
Air resources protection.

(a) Fugitive dust. Each person who conducts surface mining activities shall plan and employ fugitive dust control measures as an integral part of site preparation, coal mining, and reclamation operations. The regulatory authority shall approve the control measures appropriate for use in planning, according to applicable Federal and State air quality standards, climate, existing air quality in the area affected by mining, and the available control technology.

(b) Control measures. The fugitive dust control measures to be used, depending on applicable Federal and State air quality standards, climate, existing air quality, size of the operation, and type of operation, shall include, as necessary, but not be limited, to-

(1) Periodic watering of unpaved roads, with the minimum frequency of watering approved by the regulatory authority;

(2) Chemical stabilization of unpaved roads with proper application of nontoxic soil cement or dust palliatives;

(3) Paving of roads;

(4) Prompt removal of coal, rock, soil, and other dust-forming debris from roads and frequent scraping and compaction of unpaved roads to stabilize the road surface;

(5) Restricting the speed of vehicles to reduce fugitive dust caused by travel;

(6) Revegetating, mulching, or otherwise stabilizing the surface of all areas adjoining roads that are sources of fugitive dust;

(7) Restricting the travel of unauthorized vehicles on other than established roads;

(8) Enclosing, covering, watering, or otherwise treating loaded haul trucks and railroad cars, to reduce loss of material to wind and spillage;

(9) Substituting of conveyor systems for haul trucks and covering of conveyor systems when conveyed loads are subjected to wind erosion;

(10) Minimizing the area of disturbed land;

(11) Prompt revegetation of regraded lands;

(12) Use of alternatives for coal-handling methods, restriction of dumping procedures, wetting of disturbed materials during handling, and compaction of disturbed areas;

(13) Planting of special windbreak vegetation at critical points in the permit area;

(14) Control of dust from drilling, using water sprays, hoods, dust collectors, or other controls;

(15) Restricting the areas to be blasted at any one time to reduce fugitive dust;

(16) Restricting activities causing fugitive dust during periods of air stagnation;

(17) Extinguishing any areas of burning or smoldering coal and periodically inspecting for burning areas whenever the potential for spontaneous combustion is high;

(18) Reducing the period of time between initially disturbing the soil and revegetating or other surface stabilization; and

(19) Restricting fugitive dust at spoil and coal transfer and loading points with water sprays, negative pressure systems and baghouse filters, chemicals, or other practices.

(c) Additional measures. Where the regulatory authority determines that application of fugitive dust control measures listed in paragraph (b) of this Section is inadequate, the regulatory authority may require additional measures and practices as necessary.

(d) Monitoring. Air monitoring equipment shall be installed and monitoring shall be conducted in accordance with the air monitoring plan required under 30 CFR 780.15 and approved by the regulatory authority.

§816.97
Protection of fish, wildlife, and related environmental values

(a) Any person conducting surface mining activities shall, to the extent possible using the best technology currently available, minimize disturbances and adverse impacts of the activities on fish, wildlife, and related environmental values, and achieve enhancement of such resources where practicable.

(b) A person who conducts surface mining activities shall promptly report to the regulatory authority the presence in the permit area of any critical habitat of a threatened or endangered species listed by the Secretary, any plant or animal listed as threatened or endangered by the State, or any bald or golden eagle, of which that person becomes aware and which was not previously reported to the regulatory authority by that person.

(c) A person who conducts surface mining activities shall ensure that the design and construction of electric power lines and other transmission facilities used for or incidental to the surface mining activities on the permit area are in accordance with the guidelines set forth in Environmental Criteria for Electric Transmission System (USDI, USDA (1970), or in alternative guidance manuals approved by the regulatory authority. Distribution lines shall be designed and constructed in accordance with REA Bulletin 61-10 Powerline Contacts by Eagles and Other Large Birds or in alternative guidance manuals approved by the regulatory authority. The two works listed in this paragraph are hereby incorporated by reference. These materials are incorporated as they exist on the date of adoption of this part, and notices of changes in these materials will periodically be published in the Federal Register . These two works are available at all OSM Regional Offices and at the OSM Central Office, Department of the Interior, 18th & C Sts., N.W., Washington, D.C. 20240.

(d) Each person who conducts surface mining activities shall, to the extent possible using the best technology currently available-

(1) Locate and operate haul and access roads so as to avoid or minimize impacts to important fish and wildlife species or other species protected by State or Federal law;

(2) Fence roadways where specified by the regulatory authority to guide locally important wildlife to roadway underpasses. No new barrier shall be created in known and important wildlife migration routes.

(3) Fence, cover, or use other appropriate methods to exclude wildlife from ponds which contain hazardous concentrations of toxic-forming materials;

(4) Restore, enhance where practicable or avoid disturbance to habitats of unusually high value for fish and wildlife;

(5) Restore, enhance where practicable, or maintain natural riparian vegetation on the banks of streams, lakes, and other wetland areas;

(6) Afford protection to aquatic communities by avoiding stream channels as required in Section 816.57 or restoring stream channels as required in Section 816.44.

(7) Not use persistent pesticides on the area during surface mining and reclamation activities, unless approved by the regulatory authority.

(8) To the extent possible prevent, control, and suppress range, forest, and coal fires which are not approved by the regulatory authority as part of a management plan.

(9) If fish and wildlife habitat is to be a primary or secondary postmining land use, the operator shall in addition to the requirements of 30 CFR 816.111-816.117--

(i) Select plant species to be used on reclaimed areas, based on the following criteria-

(A) Their proven nutritional value for fish and wildlife,

(B) Their uses as cover for fish and wildlife, and

(C) Their ability to support and enhance fish and wildlife habitat after release of bonds; and

(ii) Distribute plant groupings to maximize benefit to fish and wildlife. Plants should be grouped and distributed in a manner which optimizes edge effect, cover, and other benefits for fish and wildlife;

(10) Where cropland is to be the alternative postmining land use on lands diverted from a fish and wildlife premining land use and where appropriate for wildlife and crop management practices, intersperse the fields with trees, hedges, or fence rows throughout the harvested area to break up large blocks of monoculture and to diversify habitat types for birds and other animals. Wetlands shall be preserved or created rather than drained or otherwise permanently abolished; and

(11) Where the primary land use is to be residential, public service, or industrial land use, intersperse reclaimed lands with greenbelts utilizing species of grass, shrubs and trees useful as food and cover for birds and small animals, unless such green belts are inconsistant with the approved postmining land use.

§816.99
Slides and other damage.

(a) An undisturbed natural barrier shall be provided beginning at the elevation of the lowest coal seam to be mined and extending from the outslope for such distance as may be determined by the regulatory authority as is needed to assure stability. The barrier shall be retained in place to prevent slides and erosion.

(b) At any time a slide occurs which may have a potential adverse affect on public property, health, safety, or the environment the person who conducts the surface mining activities shall notify the regulatory authority by the fastest available means and comply with any remedial measures required by the regulatory authority.

816.100
Contemporaneous reclamation.

Reclamation efforts, including, but not limited to, backfilling, grading, topsoil replacement and revegetation, of all land that is disturbed by surface mining activities shall occur as contemporaneously as practicable with mining operations.

§816.101
Backfilling and grading: General requirements.

(a) Timing of backfilling and grading.

(1) Contour mining. Rough backfilling and grading shall follow coal removal by not more than 60 days or 1,500 linear feet. The regulatory authority may grant additional time for rough backfilling and grading, if the permittee can demonstrate through a detailed written analysis under 30 CFR 780.19(c) that additional time is necessary.

(2) Open pit mining with thin overburden. Rough backfilling and grading shall occur in accordance with the time schedule approved by the regulatory authority, on the basis of the materials submitted under 30 CFR 780.19(c) which shall specifically establish in stated increments the period between removal of coal and completion of backfilling and grading.

(3) Area strip mining. Rough backfilling and grading shall be completed within 180 days following coal removal and shall not be more than four spoil ridges behind the pit being worked, the spoil from the active pit being considered the first ridge. The regulatory authority may grant additional time for rough backfilling and grading if the permittee can demonstrate through a detailed written analysis, under 30 CFR 780.19(c) that additional time is necessary.

(b) Method for backfilling and grading.

(1) Except as specifically exempted in this Subchapter, all disturbed areas shall be returned to their approximate original contour. All spoil shall be transported, backfilled, compacted (where advisable to insure stability or to prevent leaching) and graded to eliminate all highwalls, spoil piles, and depressions.

(2) Backfilled material shall be placed to minimize adverse effects on ground water, minimize off-site effects, and to support the approved postmining land use.

(3) The postmining graded slopes need not be of uniform slope.

(4) Cut-and-fill terraces may be used only in those situations expressly identified in section 816.102.

§816.102
Backfilling and grading: General grading requirements.

(a) The final graded slopes shall not exceed in grade either the approximate premining slopes, or any lesser slopes approved by the regulatory authority based on consideration of soil, climate, or other characteristics of the surrounding area. Postmining final graded slopes need not be uniform but shall approximate the general nature of the premining topography. The requirements of this section may be modified by the regulatory authority where the surface mining activities are reaffecting previously mined lands that have not been restored to the standards of this part and sufficient spoil is not available to otherwise comply with this section. The person who conducts surface mining activities shall, at a minimum-

(1) Retain all overburden and spoil on the solid portion of existing or new benches; and

(2) Backfill and grade to the most moderate slope possible, to eliminate the highwall which does not exceed either the angle of repose or such lesser slope as is necessary to achieve a minimum static safety factor of 1.3. In all cases the highwall shall be eliminated.

(b) On approval by the regulatory authority in order to conserve soil moisture, ensure stability, and control erosion on final graded slopes, cut-and-fill terraces may be allowed, if the terraces are compatible with the approved postmining land use and are appropriate substitutes for construction of lower grades on the reclaimed lands. The terraces shall meet the following requirements:

(1) The width of the individual terrace bench shall not exceed 20 feet, unless specifically approved by the regulatory authority as necessary for stability, erosion control, or roads included in the approved postmining land use plan.

(2) The vertical distance between terraces shall be as specified by the regulatory authority, to prevent excessive erosion and to provide long-term stability.

(3) The slope of the terrace outslope shall not exceed 1 v : 2 h (50 percent). Outslopes which exceed 1 v : 2 h (50 percent) may be approved, if they have a minimum static safety factor of more than 1.3, provide adequate control over erosion, and closely resemble the surface configuration of the land prior to mining. In no case may highwalls be left as part of terraces.

(4) Culverts and underground rock drains shall be used on the terrace only when approved by the regulatory authority.

(c) Small depressions may be constructed, if they-

(1) Are approved by the regulatory authority to minimize erosion, conserve soil moisture, or promote vegetation;

(2) Do not restrict normal access; and

(3) Are not inappropriate substitutes for lower grades on the reclaimed lands.

(d) All surface mining activities on slopes above 20 degrees, or on lesser slopes that the regulatory authority defines as steep slopes shall meet the provisions of 30 CFR Part 826.

(e) All final grading, preparation of overburden before replacement of topsoil, and placement of topsoil, shall be done along the contour to minimize subsequent erosion and instability. If such grading, preparation, or placement along the contour is hazardous to equipment operators, then grading, preparation, or placement in a direction other than generally parallel to the contour may be used. In all cases, grading, preparation, or placement shall be conducted in a manner which minimizes erosion and provides a surface for replacement of topsoil which will minimize slippage.

§816.103
Backfilling and grading: Covering coal and acid- and toxic-for materials.

(a) Cover.

(1) A person who conducts surface mining activities shall cover, with a minimum of 4 feet of the best available nontoxic and noncombustible material, all exposed coal seams remaining after mining, i.e. acid-forming materials, toxic-forming materials, combustible materials, or any other materials identified by the regulatory authority, as exposed, used, or produced during mining.

(2) If necessary, these materials shall be treated to neutralize toxicity, in order to prevent water pollution and sustained combustion and minimize adverse effects on plant growth and land uses.

(3) Where necessary to protect against upward migration of salts, exposure by erosion, formation of acid or toxic seeps, to provide an adequate depth for plant growth, or otherwise to meet local conditions, the regulatory authority shall specify thicker amounts of cover using non-toxic material, or special compaction and isolation from ground water contact.

(4) Acid-forming or toxic-forming material shall not be buried or stored in proximity to a drainage course so as to cause or pose a threat of water pollution.

(b) Stabilization. Backfilled materials shall be selectively hauled or conveyed, and compacted, wherever necessary to prevent leaching of acid-forming and toxic-forming materials into surface or ground waters and wherever necessary to insure stability of the backfilled materials. The method and design specifications of compacting material shall be approved by the regulatory authority before acid-forming or toxic-forming materials are covered.

§816.104
Backfilling and grading: Thin overburden.

(a) The provisions of this section apply only where the final thickness is less than 0.8 of the initial thickness. Initial thickness is the sum of the overburden thickness and coal thickness prior to removal of coal. Final thickness is the product of the overburden thickness prior to removal of coal, times the bulking factor to be determined for each mine plan area. The provisions of this section apply only when surface mining activities cannot be carried out to comply with Section 816.101 to achieve the approximate original contour.

(b) In surface mining activities carried out continuously in the same limited pit area for more than 1 year from the day coal-removal operations begin and where the volume of all available spoil and suitable waste materials over the mine plan area is demonstrated to be insufficient to achieve the approximate original contour of the lands disturbed, surface mining activities shall be conducted to meet, at a minimum, the following standards-

(1) Haul or convey, backfill, and grade, using all available spoil and suitable waste materials from the entire mine area, to attain the lowest practicable stable grade, to achieve a static safety factor of 1.3, and to provide adequate drainage and long-term stability of the regraded areas and cover all acid-forming and toxic-forming materials.

(2) Eliminate highwalls by grading or backfilling to stable slopes not exceeding 1 v : 2 h (50 percent), or such lesser slopes as the regulatory authority may specify to reduce erosion, maintain the hydrologic balance, or allow the approved postmining land use.

(3) Haul or convey, backfill, grade, and revegetate in accordance with sections 816.111-816.117, to achieve an ecologically sound land use compatible with the prevailing use in unmined areas surrounding the mine plan area; and

(4) Haul or convey, backfill, and grade, to ensure impoundments are constructed only where --

(i) It has been demonstrated to the regulatory authority's satisfaction that all requirements of Sections 816.41-816.56 have been met; and

(ii) The impoundments have been approved by the regulatory authority as suitable for the approved post-mining land use

and as meeting the requirements of this part and all other applicable Federal and State laws and regulations.

§816.105
Backfilling and grading: Thick overburden.

(a) The provisions of this section apply only where the final thickness is greater than 1.2 of the initial thickness. Initial thickness is the sum of the overburden thickness and coal thickness prior to removal of coal. Final thickness is the product of the overburden thickness prior to removal of coal, times the bulking factor to be determined for each mine plan area. The provisions of this section apply only when surface mining activities cannot be carried out to comply with Section 816.101 to achieve the approximate original contour.

(b) In surface mining activities where the volume of spoil over the mine plan area is demonstrated to be more than sufficient to achieve the approximate original contour, surface mining activities shall be conducted to meet, at a minimum, the following standards --

(1) Haul or convey, backfill, and grade all spoil and wastes, not required to achieve the approximate original contour of the mine plan area, to the lowest practicable grade, to achieve a static factor of safety of 1.3 and cover all acid-forming and other toxic-forming materials;

(2) Haul or convey, backfill, and grade excess spoil and wastes only within the permit area and dispose of such materials in accordance with Sections 816.71-816.74;

(3) Haul or convey, backfill, and grade excess spoil and wastes to maintain the hydrologic balance, in accordance with Sections 816.41-816.57 and to provide long-term stability by preventing slides, erosion and water pollution.

(4) Haul or convey, backfill, grade, and revegetate wastes and excess spoil to achieve an ecologically sound land use approved by the regulatory authority as compatible with the prevailing land uses in unmined areas surrounding the mine plan area.

(5) Eliminate all highwalls and depressions by backfilling with spoil and suitable waste materials; and

(6) Meet the revegetation requirements of Sections 816.111-816.117 for all disturbed areas.

§816.106
Regrading or stabilizing rills and gullies.

When rills or gullies deeper than 9 inches form in areas that have been regraded and topsoiled, the rills and gullies shall be filled, graded, or otherwise stabilized and the area reseeded or replanted according to Sections 816.111-816.117. The regulatory authority shall specify that rills or gullies of lesser size be stabilized and the area reseeded or replanted if the rills or gullies are disruptive to the approved postmining land use or may result in additional erosion and sedimentation.

§816.111
Revegetation: General requirements.

(a) Each person who conducts surface mining activities shall establish on all affected land a diverse, effective, and permanent vegetative cover of the same seasonal variety native to the area of disturbed land or species that supports the approved postmining land use. For areas designated as prime farmland, the requirements of 30 CFR 823 shall apply.

(b) All revegetation shall be in compliance with the plans submitted under 30 CFR 780.19(e) and 780.23, as approved by the regulatory authority in the permit, and carried out in a manner that encourages a prompt vegetative cover and recovery of productivity levels compatible with the approved postmining land use.

(1) All disturbed land, except water areas and surface areas of roads that are approved as a part of the postmining land use, shall be seeded or planted to achieve a permanent vegetative cover of the same seasonal variety native to the area of disturbed land.

(2) The vegetative cover shall be capable of stabilizing the soil surface from erosion.

(3) Vegetative cover shall be considered of the same seasonal variety when it consists of a mixture of species of equal or superior utility for the approved postmining land use, when compared with the utility of naturally-occurring vegetation during each season of the year.

(4) If both the premining and postmining land uses are cropland, planting of the crops normally grown will meet the requirements of paragraph (b)(1) of this section.

§816.112
Revegetation: Use of introduced species.

Introduced species, may be substituted for native species only if approved by the regulatory authority under the following conditions:

(a) After appropriate field trials have demonstrated that the introduced species are desirable and necessary to achieve the approved post mining land use;

(b) The species are necessary to achieve a quick, temporary, and stabilizing cover that aids in controlling erosion; and measures to establish permanent vegetation are included in the approved plan submitted under Sections 780.19(e) and 780.23.

(c) The species are compatible with the plant and animal species of the region;

(d) The species meet the requirements of applicable State and Federal seed or introduced species statutes and are not poisonous or noxious.

§816.113
Revegetation: Timing.

Seeding and planting of disturbed areas shall be conducted during the first normal period for favorable planting conditions after final preparation. The normal period for favorable planting shall be that planting time generally accepted locally for the type of plant materials selected. When necessary to effectively control erosion, any disturbed area shall be seeded and planted, as contemporaneously as practicable with the completion of backfilling and grading, with a temporary cover of small grains, grasses, or legumes until a permanent cover is established.

§816.114
Revegetation: Mulching and other soil stabilizing practices.

(a) Suitable mulch and other soil stabilizing practices shall be used on all regraded and topsoiled areas to control erosion, promote germination of seeds, or increase the moisture-retention capacity of the soil. The regulatory authority may, on a case-by-case basis, suspend the requirement for mulch, if the permittee can demonstrate that alternative procedures will achieve the requirements of 816.116 and do not cause or contribute to air or water pollution.

(b) When required by the regulatory authority, mulches shall be mechanically or chemically anchored to the soil surface to assure effective protection of the soil and vegetation.

(c) Annual grasses and grains may be used alone, as in situ mulch, or in conjunction with another mulch, when the regulatory authority determines that they will provide adequate soil erosion control and will later be replaced by perennial species approved for the post mining land use.

(d) Chemical soil stabilizers alone, or in combination with appropriate mulches, may be used in conjunction with vegetative covers approved for the postmining land use.

816.115
Revegetation: Grazing.

When the approved postmining land use is range or pasture land, the reclaimed land shall be used for livestock grazing at a grazing capacity approved by the regulatory authority approximately equal to that for similar non-mined lands, for at least the last two full years of liability required under Section 816.116(b).

§816.116
Revegetation: Standards for success.

(a) Success of revegetation shall be measured by techniques approved by the regulatory authority after consultation with appropriate State and Federal agencies. Comparison of ground cover and productivity may be made on the basis of reference areas or through the use of technical guidance procedures published by USDA or USDI for assessing ground cover and productivity. Management of the reference area, if applicable, shall be comparable to that which is required for the approved post-mining land use of the permit area.

(b) (1) Ground cover and productivity of living plants on the revegetated area within the permit area shall be equal to the ground cover and productivity of living plants on the approved reference area or to the standards in other technical guides approved by the Director for use in the regulatory program. The period of extended responsibility under the performance bond requirements of Subchapter J initiates when ground cover equals the approved standard after the last year of augmented seeding, fertilizing, irrigation or other work which ensures success in--

(i) Areas of more than 26.0 inches average annual precipitation; and continues for not less than five years. Ground cover and productivity shall equal the approved standard for the last two consecutive years of the responsibility period; or in

(ii) Areas of less than or equal to 26.0 inches average annual precipitation; and continues for not less than 10 years. Ground cover and productivity shall equal the approved standard for the last two consecutive years of the responsibility period.

(2) For purposes of paragraph (b)(1) of this section, the average annual precipitation can be determined either --

(i) By interpolation, using standard techniques, from "Mean Annual Precipitations," Map, p. 97, The National Atlas of the United States, U.S. Department of the Interior, Geological Survey, 1970; or from "Climatic Atlas of the United States," U.S. Dept. of Commerce, National Oceanic and Atmospheric Administration, 1974; or from long-term precipitation averages from "Climatological Data," U.S. Dept. of Commerce, National Oceanic and Atmospheric Administration; or from other official records; or

(ii) Based on 10 years of continuous and reliable precipitation records from stations located in or adjacent to the mine plan area.

(3) The ground cover and productivity of the revegetated area shall be considered equal if they are at least 90 percent of the ground cover or productivity of the reference area or other approved technical guidance procedures with 90 percent statistical confidence, or with 80 percent statistical confidence on shrublands. Exceptions may be authorized by the regulatory authority under the following standards:

(i) For previously mined areas that were not reclaimed to the requirements of this Subchapter, as a minimum the ground cover of living plants shall not be less than can be supported by the best available topsoil or other suitable material in the reaffected area, shall not be less than the ground cover existing before redisturbance, and shall be adequate to control erosion;

(ii) For areas to be developed for industrial or residential use less than 2 years after regrading is completed, the ground cover of living plants shall not be less than required to control erosion; and

(iii) For areas to be used for cropland, success in revegetation of cropland shall be determined on the basis of crop production from the mined area as compared to approved reference areas or other technical guidance procedures. Crop production from the mined area shall be equal to or greater than that of the approved standard for the last two consecutive growing seasons of the 5 or 10 year liability period established in (b)(1) of this section. The applicable 5 or 10 year period of responsibility for revegetation shall commence at the date of initial planting of the crop being grown. Production shall not be considered equal if it is less tha 90 percent of the production of the approved standard with 90 percent statistical confidence.

(iv) On areas to be developed for fish and wildlife management or forestland, success of vegetation shall be determined on the basis of tree, shrub or half-shrub stocking and ground cover. The tree, shrub, or half-shrub stocking shall meet the standards described in section 816.117. The area seeded to a ground cover shall be considered acceptable if it is at least 70 percent of the ground cover of the reference areas with 90 percent statistical confidence or if the ground cover is determined to be adequate to control erosion by the regulatory authority. Section 816.116(b) shall determine the responsibility period and the frequency of ground cover measurement area.

(c) The person who conducts surface mining activities shall-

(1) Maintain any necessary fences and proper management practices; and

(2) Conduct periodic measurements of vegetation, soils, and water prescribed or approved by the regulatory authority, to identify conditions during the applicable period of liability specified in paragraph (b) of this section.

(d) For permit areas 40 acres or less in size, in locations with an average annual precipitation of more than 26 inches, the following performance standards, if approved by the regulatory authority, may be used instead of reference areas to measure success of revegetation on sites that are disturbed. These standards shall be met for a minimum of 5 full consecutive years.

(1) Areas planted only in herbaceous species shall sustain a vegetative ground cover of 70 percent for 5 full consecutive years.

(2) Areas planted with a mixture of herbaceous and woody species shall sustain a herbaceous vegetative ground cover of 70 percent for 5 full consecutive years and 400 woody plants per acre after 5 years. On steep slopes, the minimum number of woody plants shall be 600 per acre.

(3) For purposes of this section, herbaceous species means grasses, legumes, and nonleguminous forbs; woody plants means woody shrubs, trees and vines; and ground cover means the area of ground covered by the combined aerial parts of vegetation and the litter that is produced naturally onsite, expressed as a percentage of the total area of measurement.

§816.117
Revegetation: Tree and shrub stocking for forest land.

This section sets forth forest resource conservation standards for reforestation operations to ensure that a cover of commercial tree species, non-commercial tree species, shrubs or half shrubs, sufficient for adequate use of the available growing space, is established after surface mining activities.

(a) Stocking, i.e. the number of stems per unit area, will be used to determine the degree to which space is occupied by well-distributed, countable trees, shrubs or half-shrubs.

(1) Root crown or root sprouts over 1 foot in height shall count as one toward meeting the stocking requirements. Where multiple stems occur only the tallest stem will be counted.

(2) A countable tree or shrub means a tree that can be used in calculating the degree of stocking under the following criteria:

(i) the tree or shrub shall be in place at least 2 growing seasons,

(ii) the tree or shrub shall be alive and healthy, and

(iii) the tree or shrub shall have at least one third of its length in live crown.

(3) Rock areas, permanent road and surface water drainage ways on the revegetated area shall not require stocking.

(b) The following are the minimum performance standards for areas where commercial forest land is the approved post mining land use:

(1) The area shall have a minimum stocking of 450 trees or shrubs per acre,

(2) A minimum of 75 percent of countable trees or shrubs shall be commercial trees species,

(3) The number of trees or shrubs and the ground cover shall be determined using procedures described in section 816.116(b)(3)(iv) and 816.117(b) and the sampling method approved by the regulatory authority; when the stocking is equal to or greater than 450 trees or shrubs per acre and there is acceptable groundcover, the 5 or 10 year responsibility period required in section 816.116(b) shall begin;

(4) Upon expiration of the 5 or 10 year responsibility period and at the time of request for bond release, each permittee shall provide documentation showing that the stocking of trees and shrubs and the groundcover on the revegetated area satisfy sections 816.116(b)(3)(iv) and 816.117(c)(i).

(c) The following are the minimum performance standards for areas where woody plants are used for wildlife management, recreation, shelter belts, or forest uses other than commercial forest land:

(1) An inventory of trees, half-shrubs and shrubs shall be conducted on established reference areas according to methods approved by the regulatory authority; this inventory shall contain but not be limited to--

(a) site quality,
(b) stand size,
(c) stand condition,
(d) site and species relations, and
(e) appropriate forest land utilization considerations;

(2) The stocking of trees, shrubs, half-shrubs and the groundcover established on the revegetated area shall approximate the stocking and ground cover on the reference area and shall utilize local and regional recommendations regarding species composition, spacing and planting arrangement. The stocking of live woody plants shall be equal to or greater than 90 percent of the stocking of woody plants of the same life form on the reference area. When this requirement is met and acceptable ground cover is achieved, the 5 or 10 year responsibility period required in section 816.116(b) shall begin.

(3) Upon expiration of the 5 or 10 year responsibility period and at the time of request for bond release, each permittee shall provide documentation showing that:

(i) the woody plants established on the revegetated site are equal to or greater than 90 percent of the stocking of live woody plants of the same life form of the approved reference areas with 80 percent statistical confidence and

(ii) the groundcover on the revegetated area satisfies section 816.116(b)(3)(iv). Species diversity, seasonal variety and regenerative capacity of the vegetation of the revegetated area shall be evaluated on the basis of the results which could reasonably be expected using the revegetation methods described in the mining and reclamation plan.

§816.131
Cessation of operations: Temporary.

(a) Each person who conducts surface mining activities shall effectively secure surface facilities in areas in which there are no current operations, but in which operations are to be resumed under an approved permit. Temporary abandonment shall not relieve a person of his or her obligation to comply with any provisions of the approved permit.

(b) Before temporary cessation of mining and reclamation operations for a period of thirty days or more or as soon as it is known that a temporary cessation will extend beyond 30 days, persons who conduct surface mining activities shall submit to the regulatory authority a notice of intention to cease or abandon mining and reclamation operations. This notice shall include a statement of the exact number of acres which will have been affected in the permit area, prior to such temporary cessation, the extent and kind of reclamation of those areas which will have been accomplished, and identification of the backfilling, regrading, revegetation, environmental monitoring, and water treatment activities that will continue during the temporary cessation.

§816.132
Cessation of operations: Permanent.

(a) Persons who cease surface mining activities permanently shall close or backfill or otherwise permanently reclaim all affected areas, in accordance with this Chapter and the permit approved by the regulatory authority.

(b) All underground openings, equipment, structures, or other facilities not required for monitoring, unless approved by the regulatory authority as suitable for the post-mining land use or environmental monitoring, shall be removed and the affected land reclaimed.

§816.133
Post-mining land use.

(a) General. All affected areas shall be restored in a timely manner --

(1) To conditions that are capable of supporting the uses which they were capable of supporting before any mining; or

(2) To higher or better uses achievable under criteria and procedures of this section.

(b) Determining pre-mining use of land. The pre-mining uses of land to which the post-mining land use is compared shall be those uses which the land previously supported, if the land had not been previously mined and had been properly managed.

(1) The post-mining land use for land that has been previously mined and not reclaimed shall be judged on the basis of the highest and best use that can be achieved and is compatible with surrounding areas.

(2) The post-mining land use for land that has received improper management shall be judged on the basis of the pre-mining use of surrounding lands that have received proper management.

(3) If the premining use of the land was changed within 5 years of the beginning of mining, the comparison of postmining use to premining use shall include a comparison with the historic use of the land as well as its use immediately preceding mining.

(c) Prior to the release of lands from the permit area in accordance with 807.12(c) the permit area shall be restored, in a timely manner, either to conditions capable of supporting the uses they were capable of supporting before any mining or to conditions capable of supporting approved alternative land uses. Alternative land uses may be approved by the regulatory authority after consultation with the landowner or the land-management agency having jurisdiction over the lands, if the following criteria are met:

(1) The proposed post-mining land use is compatible with adjacent land use and, where applicable, with existing local, State, or Federal land use policies and plans: A written statement of the views of the authorities with statutory responsibilities for land use policies and plans is submitted to the regulatory authority within 60 days of notice by the regulatory authority and before surface mining activities begin. Any required approval, including any necessary zoning or other changes required for land use by local, State, or Federal land management agencies, is obtained and remains valid throughout the surface mining activities.

(2) Specific plans are prepared and submitted to the regulatory authority which show the feasibility of the postmining land use as related to projected land use trends and markets and that include a schedule showing how the proposed use will be developed and achieved within a reasonable time after mining and be sustained. The regulatory authority may require appropriate demonstrations to show that the planned procedures are feasible, reasonable, and integrated with mining and reclamation, and that the plans will result in successful reclamation.

(3) Provision of any necessary public facilities is ensured as evidenced by letters of commitment from parties other than the person who conducts surface mining activities, as appropriate, to provide the public facilities in a manner compatible with the plans submitted under 30 CFR 780.23. The letters shall be submitted to the regulatory authority before surface mining activities begin.

(4) Specific and feasible plans are submitted to the regulatory authority which show that financing, attainment and maintenance of the post-mining land use are feasible and, if appropriate, are supported by letters of commitment from parties other than the person who conducts the surface mining activities.

(5) Plans for the post-mining land use are designed under the general supervision of a registered professional engineer, or other appropriate professional, who will ensure that the plans conform to applicable accepted standards for adequate land stability, drainage, vegetative cover, and esthetic design appropriate for the post-mining use of the site.

(6) The proposed use will neither present actual or probable hazard to public health or safety nor will it pose any actual or probable threat of water flow diminution or pollution.

(7) The use will not involve unreasonable delays in reclamation.

(8) Necessary approval of measures to prevent or mitigate adverse effects on fish, wildlife and related environmental values is obtained from the regulatory authority and appropriate State and Federal fish and wildlife management agencies have been provided a 60 day period in which to review the plan before surface mining activities begin.

(9) Proposals to change pre-mining land uses of range, fish and wildlife habitat, forest land, hayland, or pasture to a post-mining cropland use, where the cropland would require continuous maintenance such as seeding, plowing, cultivation, fertilization, or other similar practices to be practicable or to comply with applicable Federal, State, and local laws, are reviewed by the regulatory authority to ensure that --

(i) There is a firm written commitment by the person who conducts surface mining activities or by the landowner or land manager to provide sufficient crop management after release of applicable performance bonds under Subchapter J and sections 816.111-817.117, to assure that the proposed post-mining cropland use remains practical and reasonable;

(ii) There is sufficient water available and committed to maintain crop production; and

(iii) Topsoil quality and depth are sufficient to support the proposed use.

Roads: Class I: General.

(a) Each person who conducts surface mining activities shall design, construct or reconstruct, utilize, and maintain Class I Roads and restore the area to meet the requirements of 30 CFR 816.151-816.156 and to control or minimize erosion and siltation, air and water pollution, and damage to public or private property.

(b) To the extent possible using the best technology currently available, Class I Roads shall not cause damage to fish, wildlife, and related environmental values and shall not cause additional contributions of suspended solids to streamflow or to runoff outside the permit area. Any such contributions shall not be in excess of limitations of State or Federal law.

(c) All Class I Roads shall be removed and the land affected regraded and revegetated in accordance with the requirements of 30 CFR 816.156 unless-

(1) Retention of the road is approved as part of the approved postmining land use or as being necessary to control erosion adequately;

(2) The necessary maintenance is assured; and

(3) All drainage is controlled according to 30 CFR 816.153.

(d) (1) The design and construction or reconstruction of Class I Roads shall be certified by a registered qualified professional engineer in accordance with 30 CFR 816.151-816.154, except to the extent that alternative specifications are used. Alternative specifications may be used only after approval by the regulatory authority upon a demonstration by a registered qualified professional engineer that they will result in performance equal to or better than that resulting from Class I Roads complying with 30 CFR 816.151-816.156.

(2) The design shall incorporate the demand for mobility and travel efficiency, based on geometric criteria, both horizontal and vertical, appropriate for the anticipated volume of traffic and weight and speed of vehicles to be used.

816.151
Roads: Class I: Location.

(a) Class I Roads shall be located, insofar as possible, on ridges or on the most stable available slopes to minimize erosion.

(b) No part of any Class I Road shall be located in the channel of an intermittent or perennial stream unless specifically approved by the regulatory authority.

(c) Stream fords are prohibited unless they are specifically approved by the regulatory authority as temporary routes during periods of construction. The fords shall not adversely affect stream sedimentation or fish, wildlife, and related environmental values. All other stream crossings shall be made using bridges, culverts, or other structures designed, constructed, and maintained to meet the requirements of 30 CFR 816.153.

(d) Class I Roads shall be located to minimize downstream sedimentation or flooding.

816.152
Roads: Class I: Design and construction.

Class I Roads shall be designed and constructed or reconstructed in compliance with the following standards in order to control subsequent erosion and disturbance of the hydrologic balance:

(a) *Vertical alinement.* Except where lesser grades are necessary to control site-specific conditions, maximum road grades shall be as follows:

(1) The overall grade shall not exceed 1*v*:10*h* (10 percent).

(2) The maximum pitch grade shall not exceed 1*v*:6.5*h* (15 percent).

(3) There shall be not more than 300 feet of pitch grade exceeding 10 percent within any consecutive 1,000 feet of Class I Roads, but in no case shall there be any pitch grade over 15 percent.

(b) *Horizontal alinement.* Class I Roads shall have horizontal alinement as consistent with the existing topography as possible, and shall provide the alinement required to meet the performance standards of 30 CFR 816.150-816.156. The alinement shall be determined in accordance with the anticipated volume of traffic and weight and speed of vehicles to be used. Horizontal and vertical alinement shall be coordinated to ensure that one will not adversely affect the other and to ensure that the road will not cause environmental damage.

(c) *Road cuts.*

(1) Cut slopes shall not be steeper than specifically authorized by the regulatory authority which shall not authorize slopes steeper than 1*v*:1.5*h* in unconsolidated materials or 1*v*:0.25*h* in rock, except that steeper slopes may be specifically authorized by the regulatory authority if geotechnical analysis demonstrates that a minimum safety factor of 1.5 can be maintained.

(2) Topsoil or other materials suitable under 30 CFR 816.22 shall be placed on all cut slopes of 1*v*:1.5*h* or flatter to aid in establishing vegetation and to minimize erosion. Topsoil depth shall be adequate to support vegetation necessary to control erosion.

(3) Temporary erosion-control measures shall be implemented during construction to minimize sedimentation and erosion until permanent control measures can be established.

(d) *Road embankments.* Embankment sections shall be constructed in accordance with the following provisions:

(1) All vegetative material and topsoil shall be removed from the embankment foundation during construction to increase stability, and no vegetative material or topsoil shall be placed beneath or in any Class I road embankment.

(2) Where an embankment is to be placed on side slopes exceeding 1*v*:5*h* (20 percent), the existing ground shall be plowed, stepped, or, if in bedrock, keyed in a manner which increases the stability of the fill. The keyway shall be a minimum of 10 feet in width and shall extend a minimum of 2 feet below the toe of the fill.

(3) Material containing by volume less than 25 percent or rock larger than 6 inches in greatest dimension shall be spread in successive uniform layers not exceeding 12 inches in thickness before compaction.

(4) Where the material for an embankment consists of large-size rock, broken stone, or fragmented material that makes placing it in 12-inch layers impossible under paragraph (d)(3) of this Section, the embankment shall be constructed in uniform layers not exceeding in thickness the approximate average size of the rock used, but the layers shall not exceed 36 inches in thickness. Rock shall not be dumped in final position, but shall be distributed by blading or dozing in a manner that will ensure proper placement in the embankment, so

that voids, pockets, and bridging will be reduced to a minimum. The final layer of the embankment shall meet the requirements of paragraph (d)(3) of this Section.

(5) Each layer of the embankment shall be completed, leveled, and compacted before the succeeding layer is placed. Loads of material shall be leveled as placed and kept smooth. The successive layers shall be compacted evenly by routing the hauling and leveling equipment over the entire width of the embankment. This procedure shall be continued until no visible horizontal movement of the embankment material is apparent.

(6) Embankment layers shall be compacted as necessary to ensure that the embankment is adequate to support the anticipated volume of traffic and weight speed of vehicles to be used. In selecting the method to be used for placing embankment material, consideration shall be given in the design to such factors as the foundation, geological structure, soils, type of construction, and equipment to be used. A structural and foundation analysis shall be performed to establish design standards for embankment stability appropriate to the site. Publications of the American Association of State Highway and Traffic Officers (AASHTO), including AASHTO T-99, T-180, T-91, and the modified AASHTO test, or other specifications generally recognized by transportation engineers as adequate for design of highway embankments, shall be used to determine the degree of compaction required, on the basis of soil type and the anticipated volume of traffic and weight and speed vehicles to be used. Compaction effort shall be adequate to achieve the degree of compaction required. No lift shall be placed on a layer until the design density is achieved throughout the layer. AASHTO specifications such as T-99, T-180, the modified AASHTO test, or other comparable specifications approved by the regulatory authority shall be used as guidelines for the determination of the maximum dry density for granular materials.

(7) Material shall be placed in an embankment only when its moisture content is within acceptable levels to achieve design compaction.

(8) Embankment slopes shall not be steeper than lv:2h, except that where the embankment material is a minimum of 85 percent rock, slopes shall not be steeper than lv:1.35h if it has been demonstrated to the regulatory authority that embankment stability will result. Where rock embankments are constructed, they shall meet the requirements of paragraph (d)(4) of this Section.

(9) The minimum safety factor for all embankments shall be 1.25, or such higher factor as the regulatory authority may specify.

(10) The road surface shall be sloped toward the ditch line at a minimum rate of one-quarter inch per foot of surface width, or crowned at a minimum rate of one-quarter inch per foot of surface width as measured from the centerline of the road.

(11) All material used in embankments shall be suitable for use under paragraphs (d)(1)-(8) of this Section. The material shall be reasonably free of organic material, coal or coal blossom, frozen materials, wet or peat material, natural soils containing organic matter, or any other material considered unsuitable by the regulatory authority for use in embankment construction.

(12) Excess or unsuitable material from excavations, as defined in paragraph (d)(11) of this Section, shall be disposed of in accordance with 30 CFR 816.71. Acid- and toxic-forming material shall be disposed of in accordance with 30 CFR 816.48, 816.81, and 816.103.

(13) Acid-producing materials shall be permitted for constructing embankments for only those Class I Roads constructed or reconstructed on coal processing waste banks and only if it has been demonstrated to the regulatory authority that no additional acid will leave the confines of the coal processing waste bank. In no case shall acid-bearing refuse material be used outside the confines of the coal processing waste bank. Restoration of the road shall be in accordance with the requirements of 30 CFR 816.103-816.117.

(14) Topsoil or other material suitable under 30 CFR 816.22 shall be placed on all embankment slopes of lv:1.5h or flatter to aid in establishing vegetation and to minimize erosion. Topsoil depth shall be adequate to support vegetation and to prevent erosion.

(15) Temporary erosion-control measures shall be incorporated during construction to control sedimentation and minimize erosion until permanent control measures can be established.

(e) Topsoil removal. Before initiation of construction or reconstruction of a Class I Road, topsoil and other materials, as determined under 30 CFR 816.22, shall be removed from the design roadbed, shoulders, and surfaces where associated structures will be placed, and shall be stored in accordance with 30 CFR 816.23.

816.153
Roads: Class I: Drainage.

(a) General.

(1) Each Class I Road shall be designed, constructed or reconstructed, and maintained to have adequate drainage, using structures such as, but not limited to, ditches, cross drains, and ditch relief drains. The water-control system shall be designed to safely pass the peak runoff from a 10-year, 24-hour precipitation event or a greater event if required by the regulatory authority.

(2) Sediment control shall comply with 30 CFR 816.42 and 816.45.

(3) Vegetation shall not be cleared for more than the width necessary for road and associated ditch construction, to serve traffic needs and for utilities.

(b) Ditches.

(1) A ditch shall be provided on both sides of a through-cut and on the inside shoulder of a cut-and-fill section, with ditch relief cross drains spaced according to grade. Water shall be intercepted before reaching a switchback or large fill and drained safely away in accordance with this Section. Water from a fill or in switchback shall be released below the fill, through conduits or riprapped channels, and shall not be discharged onto the fill. Drainage ditches shall be placed at the toe of all cut slopes formed by the construction of roads.

(2) On flat sections of Class I Roads where rolling topography is insufficient to provide natural ditch drainage, the road grade shall be undulated to provide for free flow of water in the ditch section. Road sections may be constructed to elevate the road surface above the original ground surface to facilitate drainage.

(c) Culverts and bridges. (1)(i) Culverts with an end area of 35 square feet or less shall be designed to safely pass the 10-year, 24-hour precipitation event so it will not overtop the road. Culverts with an end area of greater than 35 square feet, and bridges with spans of 30 feet or less, shall be designed to safely pass the 20-year, 24-hour precipitation event. Bridges with spans of more than 30 feet shall be designed to safely pass the 100-year, 24-hour precipitation event or a larger event as specified by the regulatory authority.

(ii) Drainage pipes and culverts shall be constructed to avoid plugging or collapse and erosion at inlets and outlets.

(iii) Trash racks and debris basins shall be installed in the drainage area wherever debris from the drainage area could impair the functions of drainage and sediment-control structures.

(iv) All culverts shall be covered by compacted fill to a minimum depth of 1 foot.

(v) Culverts shall be designed, constructed, and maintained to sustain the vertical soil pressure, the passive resistance of the foundation, and the weight of vehicles to be used.

(2) Culverts for road-surface drainage only shall be constructed in accordance with the following:

(i) Unless otherwise authorized or required under paragraphs (ii) or (iii), culverts shall be spaced as follows:

(A) Spacing shall not exceed 1,000 feet on grades of 0 to 3 percent.

(B) Spacing shall not exceed 800 feet on grades of 3 to 6 percent.

(C) Spacing shall not exceed 500 feet on grades of 6 to 10 percent.

(D) Spacing shall not exceed 300 feet on grades of 10 percent or greater.

(ii) Culverts at closer intervals than the maximum in paragraph (c)(2)(i) of this Section shall be installed if required by the regulatory authority as appropriate for the erosive properties of the soil or to accommodate flow from small intersecting drainages.

(iii) Culverts may be constructed at greater intervals than the maximum indicated in paragraph (c)(2)(i) of this Section if authorized by the regulatory authority upon a finding that greater spacing will not increase erosion.

(iv) Culverts shall cross the road at not less than a 30° angle downgrade.

(v)(A) Culverts may be designed to carry less than the peak runoff from a 10-year, 24-hour precipitation event if the ditch will not overtop and will remain stable.

(vi) The inlet end shall be protected by a rock headwall or other material approved by the regulatory authority as adequate protection against erosion of the headwall. The water shall be discharged below the toe of the fill through conduits or in riprapped channels and shall not be discharged onto the fill.

(d) Natural drainage. Natural channel drainageways shall not be altered or relocated for road construction or reconstruction without the prior approval of the regulatory authority in accordance with 30 CFR 816.43 and 816.44. The regulatory authority, may approve alterations and relocations only if-

(2) The natural-channel drainage is not blocked;

(2) No significant damage occurs to the hydrologic balance; and

(3) There is no adverse impact on adjoining landowners.

(e) Stream crossings. Drainage structures are required for stream channel crossings. Drainage structures shall not affect the normal flow or gradient of the stream, or adversely affect fish migration and aquatic habitat or related environmental values.

816.154
Roads: Class I: Surfacing.

(a) Class I Roads shall be surfaced with rock, crushed gravel, asphalt, or other material approved by the regulatory authority as sufficiently durable for the anticipated volume of traffic and weight and speed of vehicles to be used.

(b) Acid- or toxic- forming substances shall not be used in road surfacing.

816.155
Roads: Class I: Maintenance.

(a) Class I Roads shall be maintained in such a manner that the required or approved design standards are met throughout the life of the entire transportation facility including surface, shoulders, parking and side areas, approach structures, erosion control devices, cut-and-fill sections, and such traffic-control devices as are necessary for safe and efficient utilization of the road.

(b) Class I Road maintenance shall include repairs to the road surface, blading, filling of potholes, and replacement of gravel or asphalt. It shall include revegetating, brush removal, watering for dust control, and minor reconstruction of road segments as necessary.

(c) Class I Roads damaged by catastrophic events such as floods or earthquakes shall not be used until reconstruction of damaged road elements. The reconstruction shall be completed as soon as practicable after the damage has occurred.

816.156
Roads: Class I: Restoration.

(a) Unless the regulatory authority approves retention of a Class I Road as suitable for the approved postmining land use, immediately after the road is no longer needed for operations, reclamation, or monitoring-

(1) The road shall be closed to vehicular traffic;

(2) The natural-drainage patterns shall be restored;

(3) All bridges and culverts shall be removed;

(4) Roadbeds shall be ripped, plowed, and scarified;

(5) Fill slopes shall be rounded or reduced and shaped to conform the site to adjacent terrain and to meet natural-drainage restoration standards;

(6) Cut slopes shall be shaped to blend with the natural contour;

(7) Cross drains, dikes, and water bars shall be constructed to minimize erosion;

(8) Terraces shall be constructed as necessary to prevent excessive erosion and to provide long-term stability in cut-and-fill slopes; and

(9) Road surfaces shall be covered with topsoil in accordance with 30 CFR 816.24(b) and revegetated in accordance with 30 CFR 816.111-816.116.

(b) Unless otherwise authorized by the regulatory authority, all road-surfacing materials shall be removed, handled or conveyed, and disposed of under 30 CFR 816.89.

816.160

Roads: Class II: General.

(a) Each person who conducts surface mining activities shall design, construct or reconstruct, utilize, and maintain Class II Roads and restore the area to meet to meet the requirements of 30 CFR 816.161-816.166 and to control or minimize erosion and siltation, air and water pollution, and damage to public or private property.

(b) To the extent possible using the best technology currently available, Class II Roads shall not cause damage to fish, wildlife, and related environmental values and shall not cause additional contributions of suspended solids to streamflow or to runoff outside the permit area. Any such contributions shall not be in excess of limitations of State or Federal laws.

(c) All Class II Roads shall be removed and the land affected regraded and revegetated in accordance with the requirements of 30 CFR 816.166, unless-

(1) Retention of the road is approved as part of the approved postmining land use or as being necessary to control erosion adequately;

(2) The necessary maintenance is assured; and

(3) All drainage is controlled according to 30 CFR 816.163.

(d) (1) Class II Roads shall be designed and constructed in accordance with 30 CFR 816.161-816.164, except to the extent that alternative specifications are used. Alternative specifications may only be used after approval by the regulatory authority upon a demonstration by a qualified professional engineer that they will result in performance equal to or better than that resulting from Class II Roads complying with 30 CFR 816.161-816.166.

(2) The design shall incorporate consideration of the needs of the specific uses of the road in addition to travel efficiency. To the extent that the anticipated volume of traffic or weight or speed of vehicles to be used requires higher standards than those set forth in 30 CFR 816.161-816.166, such higher standards shall be incorporated in the design, construction or reconstruction, and maintenance of Class II Roads.

816.161
Roads: Class II: Location.

(a) Class II Roads shall be located, insofar as possible, on ridges or on the most stable available slopes to minimize erosion.

(b) No part of any Class II Road shall be located in the channel of an intermittent or perennial stream unless specifically approved by the regulatory authority.

(c) Stream fords are prohibited unless they are specifically approved by the regulatory authority as temporary routes during periods of construction. The fords shall not adversely affect stream sedimentation or fish, wildlife, and related environmental values. All other stream crossings shall be made using bridges, culverts, or other structures, designed, constructed, and maintained to meet the requirements of 30 CFR 816.163.

(d) Class II Roads shall be located to minimize, downstream sedimentation or flooding.

816.162
Roads: Class II: Design and construction.

Class II Roads shall be designed and constructed or reconstructed in compliance with the following standards in order to control subsequent erosion and disturbance of the hydrologic balance:

(a) Vertical alinement. A continuous grade with excessive cuts or embankments shall be avoided. Changes of grade shall be made to conform as closely as possible to the existing terrain, and maximum road grades shall be as follows:

(1) The overall grade shall not exceed 1v:10h (10 percent).

(2) The pitch grade shall not exceed 1v:6.5h (15 percent), for any consecutive 1,000 feet.

(3) The pitch grade exceeding 15 percent shall not be longer than 300 feet within any consecutive 1,000 feet of Class II Roads.

(b) Horizontal alinement. Class II Roads shall have horizontal alinement as consistent with the existing natural topography as possible, and shall provide the alinement required for the performance standards of 30 CFR 816.160-816.166. The alinement shall be determined in accordance with the anticipated, volume of traffic and weight and speed of vehicles to be used. Horizontal and vertical alinement shall be coordinated to ensure that one will not adversely affect the other and to ensure that the road will not cause environmental damage.

(c) Road cuts. Cut slopes shall not be steeper than specifically authorized by the regulatory authority, which shall not authorize slopes steeper than 1v:1.5h in unconsolidated materials or 1v:0.25h in rock, except that steeper slopes may be specifically authorized by the regulatory authority if geotechnical analysis demonstrates that a minimum safety factor of 1.5 can be maintained.

(1) Topsoil or other materials suitable under 30 CFR 816.22 shall be placed on all cut slopes of 1v:1.5h or flatter to aid in establishing vegetation and to minimize erosion. Topsoil depth shall be adequate to support vegetation necessary to minimize erosion.

(2) Temporary erosion-control measures shall be implemented during construction to minimize sedimentation and erosion until permanent control measures can be established.

(d) Road embankments. Embankment sections shall be constructed in accordance with the following provisions:

(1) All vegetative material and topsoil shall be removed from the embankment foundation to increase stability, and no vegetative material or topsoil shall be placed beneath or in any Class II Road embankment.

(2) Where an embankment is to be placed on side slopes exceeding 1v:3h (33 percent), the existing ground shall be plowed, stepped, or, if in rock, keyed in a manner which increases the stability of the fill. The keyway shall be a minimum of 10 feet in width and shall begin at the toe of fill. No material shall be placed below the toe or be allowed to slide below the toe. For slopes of less than 1v:3h (33 percent), the slopes shall be scarified to ensure bonding of the embankment and natural material.

(3) Material containing by volume less than 25 percent of rock larger than 6 inches in greatest dimension shall be spread in successive uniform layers not exceeding 12 inches in thickness before compaction.

(4) Where the material for an embankment consists of large-size rock , broken stone, or fragmented material that makes placing in 12-inch layers impossible under paragraph (d)(3) of this Section, the embankment shall be constructed in uniform layers not exceeding in thickness the approximate

average size of the rock used, but the layers shall not exceed 36 inches in thickness. Rock shall not be dumped in final position, but shall be distributed by blading or dozing in a manner that will ensure proper placement in the embankment, so that voids, pockets, and bridging will be reduced to a minimum. The final layer of the embankment shall meet the requirements of paragraph (d) (3) of this Section.

(5) Each layer of the embankment shall be completed, leveled, and compacted before the succeeding layer is placed. Embankment material shall be leveled as placed and kept smooth. The successive layers shall be compacted evenly by hauling and leveling equipment over the entire width of the embankment. This procedure shall be continued until no visible horizontal movement of the embankment material is apparent.

(6) Compaction greater than that specified in paragraph (d) (5) of this Section shall be performed to the extent necessary to ensure stability.

(7) Material shall be placed in an embankment under moisture content conditions which will permit compaction and ensure proper soil cohesion.

(8) Embankment slopes shall not be steeper than 1v:1.5h, except that if the embankment material is a minimum of 85 percent rock, slopes shall not be steeper than 1v:1.35h if it has been demonstrated to the regulatory authority that embankment stability will result. Where rock embankments are constructed, they shall meet the requirements of paragraph (d) (4) of this Section.

(9) The minimum safety factor for all embankments shall be 1.25, or such higher factor as the regulatory authority may specify.

(10) The road surface shall be sloped sufficiently to prevent ponding of water on the surface.

(11) All material used in embankments shall be suitable for use under paragraphs (d) (1)-(8) of this Section. The material shall be reasonably free of organic material, coal or coal blossom, frozen materials, wet or peat material or natural soils containing organic matter, or any other material considered unsuitable for use in embankment construction by the regulatory authority.

(12) Excess or unsuitable material from excavations, as defined in paragraph (d) (11) of this Section, shall be disposed of in accordance with 30 CFR 816.71. Acid- and toxic-forming material shall be disposed of in accordance with 30 CFR 816.48, 816.81, and 816.103.

(13) Topsoil or other material suitable under 30 CFR 816.22 shall be placed on all embankment slopes of 1v:1.5h or flatter, to aid in establishing vegetation to minimize erosion. Topsoil depth shall be adequate to support vegetation and to minimize erosion.

(14) Temporary erosion-control measures shall be incorporated during construction to control sedimentation and minimize erosion until permanent control measures can be established.

(e) Topsoil removal. Before initiation of construction or reconstruction of a Class II Road, topsoil and other materials, as determined under 30 CFR 816.22, shall be removed from the design roadbed, shoulders, and surfaces where associated structures will be placed, and shall be stored in accordance with 30 CFR 816.23.

816.163

Roads: Class II: Drainage.

(a) General.

(1) Each Class II road shall be designed, constructed or reconstructed, and maintained to have adequate drainage, using structures such as ditches in wet areas, cross drains in natural drainageways, surface dips, and stream crossings. The water-control system shall be designed to safely pass the peak runoff from a 10-year, 24-hour precipitation event or a greater event if required by the regulatory authority.

(2) Sediment control shall comply with 30 CFR 816.42 and 816.45.

(b) Ditches and alternative measures for roadbed erosion control. Where required to minimize erosion on the roadbed, ditches shall be designed and constructed in accordance with 30 CFR 816.153(b). In wet areas or where there is free water, such ditch sections shall be required. For every segment of a Class II Road with out drainage ditches which comply with 30 CFR 816.153(b), drainage shall be provided by surface dips. These drainage dips shall be constructed as undulations in the roadway of sufficient height from the hydraulic bottom to the top of the dip to prevent water from running down the surface of the road. Insloped dips shall discharge into a culvert or drop inlet. Outsloped dips shall discharge either onto the natural ground or onto embankments if a drain is provided. The bottom of the dip shall be rock surfaced to prevent erosion. Dip spacing shall be sufficient to minimize erosion of the road surface.

(c) Culverts and bridges.

(1) (i) Culverts with an end area of 35 square feet or less shall be designed to safely pass the 10-year, 24-hour precipitation event without a head of water at the entrance. Culverts with an end area of greater than 35 square feet, and bridges with spans of 30 feet or less, shall be designed to safely pass the 20-year, 24-hour precipitation event. Bridges with spans of more than 30 feet shall be designed to safely pass the 100-year, 24-hour precipitation event or larger event as specified by the regulatory authority.

(ii) Drainage pipes and culverts shall be constructed to avoid plugging or collapse, and erosion at inlets and outlets.

(iii) Culverts shall be covered by compacted fill to a minimum depth of 1 foot .

(iv) Culverts shall be designed, constructed, and maintained to sustain the vertical soil pressure, the passive resistance of the road foundation, and the weight of vehicles to be used.

(2) Culverts or dips for road-surface drainage only shall be constructed in accordance with the following:

(i) Unless otherwise authorized or required under paragraphs (ii) or (iii) of this Section, culverts and dips shall be spaced as follows:

(A) Spacing shall not exceed 1,000 feet on grades of 0 to 3 percent.

(B) Spacing shall not exceed 600 feet on grades of 3 to 6 percent.

(C) Spacing shall not exceed 400 feet on grades of 6 to 10 percent.

(D) Spacing shall not exceed 200 feet on grades of 10 percent or greater.

(ii) Surface dips or culverts at closer intervals than the maximum indicated in paragraph (c) (2) (i) of this Section shall be installed if required by the regulatory authority as appropriate for the erosive properties of the soil or to accommodate flow from small intersecting drainages.

(iii) Surface dips or culverts may be constructed at greater intervals than the maximum indicated in paragraph (c)(2)(i) of this Section is authorized by the regulatory authority upon a finding that greater spacing will not increase erosion.

(iv) Culverts and the bottoms of drainage dips shall cross the road at not less than a 30° angle downgrade.

(v) A culvert may be designed to carry less than the peak runoff from a 10-year, 24-hour precipitation event if the ditch will not overtop and will remain stable.

(vi) The inlet end of all culverts designed shall be protected by a rock headwall or other material approved by the regulatory authority as adequate protection against erosion of the headwall. The water shall be discharged below the toe of the fill through conduits or in riprapped channels and shall not be discharged onto the fill.

(d) Natural drainage. Natural-channel drainageways shall not be altered or relocated for road construction or reconstruction without the prior approval of the regulatory authority in accordance with 30 CFR 816.43 and 816.44. The regulatory authority may approve alterations and relocations only if-

(i) The natural-channel drainage is not blocked;

(ii) No significant degradation occurs to the hydrologic balance; and

(iii) There is no adverse impact on adjoining landowners.

(e) Stream crossings. Drainage structures are required for stream-channel channel crossings. Drainage structures shall not affect the normal flow or gradient of the stream, or adversely affect fish migration or aquatic habitat or related environmental values.

816.164
Roads: Class II: Surfacing.

(a) Class II Roads shall be surfaced with rock, crushed gravel, asphalt, or other material approved by the regulatory authority as sufficiently durable for the anticipated volume of traffic and weight and speed of vehicles to be used.

(b) Acid- or toxic-forming substances shall not be used in road surfacing.

(c) Vegetation shall not be cleared for more than the width necessary for road and associated ditch construction, to serve traffic needs and for utilities.

816.165 Roads: Class II. Maintenance.

(a) Class II Roads shall be maintained in such a manner that the required or approved design criteria are met throughout the life of the facility including surface and shoulders, parking, side areas, approach structures, erosion-control devices, and such traffic-control devices as are necessary for safe and efficient utilization.

(b) Class II Road maintenance shall include basic custodial care as required to protect the road investment and to prevent damage to adjacent resources. This includes maintenance to control erosion, repair of structures and drainage systems, removal of rocks and debris, replacement of surface, and restoration of the road prism.

816.166
Roads: Class II: Restoration.

(a) Unless the regulatory authority approves retention of a Class II Road as suitable for the approved postmining land use, immediately after the road is no longer needed for operations, reclamation, or monitoring -

(1) The road shall be closed to vehicular traffic;

(2) The natural drainage patterns shall be restored;

(3) All bridges and culverts shall be removed;

(4) Roadbeds shall be ripped, plowed, and scarified;

(5) Fill slopes shall be rounded or reduced and shaped to conform the site to adjacent terrain and to meet natural-drainage restoration standards;

(6) Cut slopes shall be reshaped to blend with the natural contour;

(7) Cross drains, dikes, and water bars shall be constructed to minimize erosion;

(8) Terraces shall be constructed as necessary to prevent excessive erosion and to provide long-term stability in cut and fill slopes; and

(9) Road surfaces shall be covered with topsoil in accordance with 30 CFR 816.24(b) and revegetated in accordance with 30 CFR 816.111-816.116.

(b) Unless otherwise authorized by the regulatory authority, all road surfacing materials shall be removed, handled or conveyed, and disposed of under 30 CFR 816.89.

816.170
Roads: Class III: General.

(a) Each person who conducts surface mining activities shall design, construct or reconstruct, utilize, and maintain Class III Roads and restore the area to meet the requirements of 30 CFR 816.171 - 816.176 and to control or minimize erosion and siltation, air and water pollution, and damage to public or private property.

(b) To the extent possible using the best technology currently available, Class III Roads shall not cause damage to fish, wildlife, and related environmental values and shall not cause additional contributions of suspended solids to streamflow or to runoff outside the permit area. Any such contributions shall not be in excess of limitations of State or Federal laws.

(c) All Class III Roads shall be completely removed and the land affected regraded to the approximate original contour and revegetated in accordance with the requirements of 30 CFR 816.176 except where 30 CFR 816.171(g) shall apply.

(d) To the extent that the anticipated volume or weight or speed of vehicles to be used requires higher standards those than set forth in 30 CFR 816.171-816.175, such higher standards shall be incorporated in the design, construction, and reconstruction or maintenance of Class III Roads.

816.171
Roads: Class III: Location.

(a) Class III Roads shall be located on ridges or on the most stable available slopes to minimize erosion.

(b) No part of any Class III Road shall be located in the channel of an intermittent or perennial stream unless specifically approved by the regulatory authority.

(c) Stream fords are prohibited unless they are approved by the regulatory authority as temporary routes across ephemeral or intermittent streams that will not adversely affect stream sedimentation or fish, wildlife, and related environmental values. All other stream crossings shall be made using temporary bridges, culverts, or other structures designed, constructed, and maintained to meet the requirements of 30 CFR 816.173.

(d) Class III Roads shall be located to minimize downstream sedimentation or flooding.

(e) Not later than the date a permit application is submitted to the regulatory authority for surface mining activities for which a Class III Road is proposed, the location of the proposed road shall be clearly marked in the field by flags or stakes to enable the regulatory authority to perform onsite review.

(f) Class III Roads shall not be located in wet, steep, or unstable areas where complete restoration under 30 CFR 816.176 cannot be accomplished.

(g) A Class III Road may be constructed in the same alinement as a Class I or Class II Road that is to be constructed on the same location at a later date. This may be permitted if the requirements for the location of the Class I or Class II Road are met, and the construction begins within 6 months from the time the Class III Road is constructed.

816.172

Roads: Class III: Design and construction.

Field-design methods shall be utilized for Class III Roads.

(a) *Vertical alinement.* Except where lesser grades are necessary to control site-specific conditions, maximum road grades shall be as follows:

(i) The overall grade shall not exceed 1v:10h (10 percent).

(ii) The pitch grade shall not exceed 1v:5h (20 percent).

(iii) There shall not be more than 1,000 consecutive feet of pitch grade exceeding 10 percent.

(b) *Horizontal alinement.* Class III roads may meander so as to avoid large growths of vegetation and other natural obstructions.

(c) *Road cuts.* Sidecast construction may be used.

(d) *Road embankments.* Compaction on embankments shall be required only to the extent necessary to control erosion and maintain the road.

(e) *Topsoil removal.* Topsoil shall be removed and stockpiled only where excavation would require replacement of material and redistribution of topsoil for proper revegetation.

816.173

Roads: Class III: Drainage.

(a) *General.*

(1) Class III Road drainage shall consist of temporary culverts in flowing streams, wet areas, and in ephemeral channels as necessary to protect the facility during its life and to minimize disturbance of the hydrologic balance.

(2) Sediment control shall comply with 30 CFR 816.42 and 816.45.

(b) *Culverts and bridges.* Temporary culverts shall be installed for all flowing drainages and stream crossings. Temporary culverts and bridges shall be sized to safely pass the 1-year, 6-hour precipitation event.

(c) *Natural drainage.* Natural-drainage channels shall not be altered or relocated for the purposes of Class III Road construction.

(d) *Stream crossings.* Temporary drainage structures are required for crossing permanent streams. Drainage structures shall not affect the normal flow or gradient of the stream, adversely affect fish migration and aquatic habitat or related environmental values.

816.174

Roads: Class III: Surfacing.

(a) Class III Road surfaces shall be adequate for the use of the road.

(b) Acid- or toxic-forming substances shall not be used in road surfacing.

(c) Vegetation shall not be cleared for more than the width necessary to serve traffic needs and for utilities.

816.175

Roads: Class III: Maintenance.

(a) Class III Road maintenance shall be sufficient to ensure minimization of erosion for the life of the road.

(b) Class III Roads shall not be used if climatic conditions are such that usage may cause degradation of water quality.

816.176

Roads: Class III: Restoration.

Immediately after a Class III Road is no longer needed for operations, reclamation, or monitoring-

(a) The road shall be closed to vehicular traffic:

(b) The natural drainage patterns shall be restored,

(c) All bridges and culverts shall be removed;

(d) Roadbeds shall be ripped, plowed, and scarified;

(e) Fill slopes shall be rounded or reduced and shaped to conform the site to adjacent terrain and meet natural-drainage restoration standards;

(f) Cut slopes shall be reshaped to blend with the natural contour;

(g) Cross drains, dikes, and water bars shall be constructed to control erosion; and

(h) Road surfaces from which topsoil has been removed shall be covered with topsoil in accordance with 30 CFR 816.24(b), and the surface shall be revegetated in accordance with 30 CFR 816.111-816.116.

816.180

Other transportation facilities.

Railroad loops, spurs, sidings, surface conveyor systems, chutes, aerial tramways, or other transportation facilities shall be designed, constructed or reconstructed, and maintained, and the area restored, to --

(a) Prevent, to the extent possible using the best technology currently available--

(1) Damage to fish, wildlife, and related environmental values; and

(2) Additional contributions of suspended solids to streamflow or runoff outside the permit area. Any such contributions shall not be in excess of limitations of State or Federal laws;

(b) Control and minimize diminution or degradation of water quality and quantity;

(c) Control and minimize erosion and siltation;

(d) Control and minimize air pollution; and

(e) Prevent damage to public or private property.

816.181

Support facilities and utility installations.

(a) Support facilities required for, or used incidentally to, the operation of the mine, including, but not limited to, mine buildings, coalloading facilities at or near the minesite, coal storage facilities, equipment-storage facilities, fan buildings, hoist buildings, preparation plants, sheds, shops, and other buildings, shall be designed, constructed or reconstructed, and located to prevent or control erosion and siltation, water pollution, and damage to public or private property. Support facilities shall be designed, constructed or reconstructed, maintained, and used in a manner which prevents, to the extent possible using the best technology currently available--

(1) Damage to fish, wildlife, and related environmental values; and

(2) Additional contributions of suspended solids to streamflow or runoff outside the permit area. Any such contributions shall not be in excess of limitations of State or Federal laws.

(b) All surface mining activities shall be conducted in a manner which minimizes damage, destruction, or disruption of services provided by oil, gas, and water wells; oil, gas, and coal-slurry pipelines; railroads; electric and telephone lines; and water and sewage lines which pass over, under, or through the permit area, unless otherwise approved by the owner of those facilities and the regulatory authority.

PART 817--PERMANENT PROGRAM PERFORMANCE STANDARDS--UNDERGROUND MINING ACTIVITIES

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Authority : Sections 102, 201, 501, 503, 504, 507, 508, 516, 517, 519, 701, 717 and 719, Pub. L. 95-87, 91 Stat. 448, 449, 467, 470, 471, 474, 478, 495, 498, 501, 516, 526 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1257, 1258, 1266, 1267, 1269, 1291, 1307, 1309).

§817.1
Scope.

This Part sets forth the minimum environmental protection performance standards to be adopted and implemented under regulatory programs for underground mining activities.

§817.2
Objectives.

This part is intended to ensure that all underground mining activities are conducted in a manner which preserves and enhances environmental and other values in accordance with the Act.

§817.11
Signs and markers.

(a) Specifications. Signs and markers required under this Part shall --

(1) Be posted, maintained, and removed by the person who conducts the underground mining activities;
(2) Be of a uniform design throughout the activities that can be easily seen and read;

(3) Be made of durable material; and

(4) Conform to local laws and regulations.

(b) Duration of maintenance. Signs and markers shall be maintained during all activities to which they pertain.

(c) Mine and permit identification signs.

(1) Identification signs shall be displayed at each point of access to areas of surface operations and facilities permit areas for underground mining activities from public roads.

(2) Signs will show the name, business address, and telephone number of the person who conducts underground mining activities and the identification number of the current regulatory program permit authorizing underground mining activities.

(3) Signs shall be retained and maintained until after the release of all bonds for the permit area.
(d) Perimeter markers. Each person who conducts underground mining activities shall clearly mark the perimeter of all areas affected by surface operations or facilities before beginning mining activities.
(e) Buffer zone markers. Buffer zones required by Section 817.57 shall be clearly marked to prevent disturbance by surface operations and facilities.
(f) Blasting signs. Persons who conduct surface blasting incidental to underground mining activities shall;
(1) Conspicuously flag or post, within the immediate vicinity of blasting activities, as required by Section 817.65(e);
(2) Place at all entrances to the permit area from public roads or highways conspicuous signs which state "Warning: Explosives in Use."

(g) Topsoil markers. Where topsoil or other vegetation-supporting material is segregated and stockpiled as required under Section 817.23, the stockpiled material shall be clearly marked.

§817.13
Casing and sealing of exposed underground openings: General re

Each exploration hole, other drill or borehole, shaft, well, or other exposed underground opening shall be cased, lined, or otherwise managed as approved by the regulatory authority to prevent acid or other toxic drainage from entering ground and surface waters, to minimize disturbance to the prevailing hydrologic balance and to ensure the safety of people, livestock, fish and wildlife, and machinery in the mine plan and adjacent area. Each exploration hole, drill or borehole or well that is uncovered or exposed by mining activities within the permit area shall be permanently closed, unless approved for water monitoring or otherwise managed in a manner approved by the regulatory authority. Use of a drilled hole or monitoring well as a water well must meet the provisions of Section 817.53 of this part. This Section does not apply to holes drilled and used for blasting, in the area affected by surface operations.

§817.14
Casing and sealing of underground openings: Temporary.

(a) Each mine entry which is temporarily inactive, but has a further projected useful service under the approved permit application, shall be protected by barricades or other covering devices, fenced, and posted with signs, to prevent access into the entry and identify the hazardous nature of the opening. These devices shall be periodically inspected and maintained in good operating condition by the person who conducts the underground mining activities.

(b) Each exploration hole, other drill or borehole, shaft, well, and other exposed underground opening which has been identified in the approved permit application for use to return underground development waste, coal processing waste or water to underground workings, or to be used to monitor ground water conditions, shall be temporarily sealed until actual use.

§817.15
Casing and sealing of underground openings: Permanent.

When no longer needed for monitoring or other use approved by the regulatory authority upon a finding of no adverse environmental or health and safety effects, or unless approved for transfer as a water well under 871.53, each shaft, drift, adit, tunnel, exploratory hole, entryway or other opening to the surface from underground shall be capped, sealed, backfilled, or otherwise properly managed, as required by the regulatory authority in accordance with Sections 817.13 and 817.50 and consistent with 30 CFR 75.1771. Permanent closure measures shall be designed to prevent access to the mine workings by people, livestock, fish and wildlife, machinery and to keep acid or other toxic drainage from entering ground or surface waters.

§817.21
Topsoil: General requirements.

(a) Before disturbance of areas affected by surface operations, topsoil and subsoils to be saved under Section 817.22 shall be separately removed and segregated from other material.

(b) After removal, topsoil shall be immediately redistributed in accordance with Section 817.24, stockpiled pending redistribution under Section 817.23, or if the permittee can demonstrate that an alternative procedure will provide equal or more protection for the topsoil, the regulatory authority, may, on a case by case basis, approve an alternative.

§817.22
Topsoil: Removal.

(a) Timing. Topsoil shall be removed from areas to be affected by surface operations or major structures, after vegetative cover that would interfere with the use of the topsoil is cleared from portions of those areas that will be disturbed, but before any drilling for blasting, mining, or other surface disturbance of surface lands.

(b) Materials to be removed. Topsoil shall be removed in a separate layer from the areas to be disturbed, unless use of substitute or supplemental materials is approved by the regulatory authority in accordance with paragraph (e) of this section. If use of substitute or supplemental materials is approved, all materials to be redistributed shall be removed.

(c) Material to be removed in thin topsoil situations. If the topsoil is less than 6 inches, a 6-inch layer that includes the A horizon and the unconsolidated materials immediately below the A horizon or the A horizon and all unconsolidated material if the total available is less than 6 inches, shall be removed and the mixture segregated and redistributed as the surface soil layer, unless topsoil substitutes are approved by the regulatory authority pursuant to paragraph (e) of this Section.

(d) Subsoil segregation. The B horizon and portions of the C horizon, or other underlying layers demonstrated to have qualities for comparable root development shall be segregated and replaced as subsoil, if the regulatory authority determines that either of these is necessary or desirable to ensure soil productivity consistent with the approved postmining land use.

(e) Topsoil substitutes and supplements.
(1) Selected overburden materials may be substituted for, or used as a supplement to, topsoil, if the regulatory authority determines that the resulting soil medium is equal to or more suitable for sustaining the vegetation than is the available topsoil and the substitute material is the best available to support the vegetation. This determination shall be based on:

(i) The results of chemical and physical analyses of overburden and topsoil. These analyses shall include determinations of pH, net acidity or alkalinity, phosphorus, potassium, texture class, and other analyses as required by the regulatory authority. The regulatory authority may also require that results of field-site trials or greenhouse tests be used to demonstrate the feasibility of using these overburden materials.

(ii) Results of analyses, trials, and tests shall be submitted to the regulatory authority. Certification of trials and tests shall be made by a laboratory approved by the regulatory authority stating that:
(A) The proposed substitute material is equal to or more suitable for sustaining the vegetation than is the available topsoil;
(B) The substitute material is the best available material to support the vegetation; and
(C) The trials and tests were conducted using standard testing procedures.

(2) Substituted or supplemented material shall be removed, segregated, and replaced in compliance with the requirements for topsoil under this Section.

(f) Limits on topsoil removal area. Where the removal of vegetative material, topsoil, or other materials may result in erosion which may cause air or water pollution--

(1) The size of the area from which topsoil is removed at any one time shall be limited;

(2) The surface soil layer shall be redistributed at a time when the physical and chemical properties of topsoil can be protected and erosion can be minimized; and

(3) Such other measures shall be taken as the regulatory authority may approve or require to control erosion.

§817.23
Topsoil: Storage.

(a) Topsoil and other materials removed under section 817.22 shall be stockpiled only when it is impractical to promptly redistribute such materials on regraded areas.

(b) Stockpiled materials shall be selectively placed on a stable surface area within the permit area, not disturbed, and protected from wind and water erosion, unnecessary compaction, and contaminants which lesson the capability of the materials to support vegetation when redistributed.

(1) Protection measures shall be accomplished either by--

(i) An effective cover of nonnoxious, quick-growing annual and perennial plants, seeded or planted during the first normal period after removal for favorable planting conditions; or

(ii) By other methods demonstrated to and approved by the regulatory authority to provide equal protection.

(2) Unless approved by the regulatory authority, stockpiled topsoil and other materials shall not be moved until required for redistribution on a disturbed area.

§817.24
Topsoil: Redistribution.

(a) After final grading and before the replacement of topsoil and other materials segregated in accordance with Section 817.23, regraded land shall be scarified or otherwise treated as required by the regulatory authority to eliminate slippage surfaces and to promote root penetration. If the person who conducts underground mining activities shows, through appropriate tests, and the regulatory authority approves that no harm will be caused to the topsoil and vegetation, scarification may be conducted after topsoiling.

(b) Topsoil and other materials shall be redistributed in a manner that --

(1) Achieves an approximate uniform, stable thickness consistent with the postmining land uses, slopes, and surface drainage system.

(2) Prevents excess compaction of the topsoil; and

(3) Protects the topsoil from wind and water erosion before and after it is seeded and planted.

§817.25
Topsoil: Nutrients and soil amendments.

Nutrients and soil amendments in the amounts determined by soil tests shall be applied to the redistributed surface soil layer so that it supports the post-mining land use approved by the regulatory authority and meets the revegetation requirements of Sections 817.111-817.117. All soil tests shall be performed by a qualified laboratory using standard methods approved by the regulatory authority.

§817.41
Hydrologic balance: General requirements.

(a) Underground mining activities shall be planned and conducted to minimize changes to the prevailing hydrologic balance in both the mine plan and adjacent areas, in order to prevent long-term adverse changes in that balance that could result from those activities.

(b) Changes in water quality and quantity, in the depth to ground water, and in the location of surface water drainage channels shall be minimized so that the approved postmining land use of the permit area is not adversely affected.

(c) In no case shall Federal and State water quality statutes, regulations, standards or effluent limitations be violated.

(d) Operations shall be conducted to minimize water pollution and, where necessary, treatment methods shall be used to control water pollution.

(1) Each person who conducts underground mining activities shall emphasize mining and reclamation practices that prevent or minimize water pollution. Changes in flow shall be used in preference to the use of water treatment facilities.

(2) Acceptable practices to control and minimize water pollution include, but are not limited to --

(i) Stabilizing disturbed areas through land shaping;

(ii) Diverting runoff;

(iii) Achieving quickly germinating and growing stands of temporary vegetation;

(iv) Regulating channel velocity of water;

(v) Lining drainage channels with rock or vegetation;

(vi) Mulching;

(vii) Selectively placing and sealing acid-forming and toxic-forming materials;

(viii) Designing mines to prevent gravity drainage of acid waters;

(ix) Sealing;

(x) Controlling subsidence; and

(xi) Preventing acid mine drainage.

(3) If the practices listed at paragraph (d)(2) of this section are not adequate to meet the requirements of this Part, the person who conducts underground mining activities shall operate and maintain the necessary water treatment facilities for as long as treatment is required under this Part.

§817.42
Hydrologic balance: Water quality standards and effluent limitations.

(a) All surface drainage from the disturbed area, including disturbed areas that have been graded, seeded, or planted, shall be passed through a sedimentation pond, a series of sedimentation ponds, or a treatment facility before leaving the permit area. Any discharge of water from underground workings to surface waters shall also be passed through a sedimentation pond, a series of sedimentation ponds, or a treatment facility before leaving the permit area. Sedimentation ponds and treatment facilities for surface drainage from the disturbed area shall be maintained until the disturbed area has been restored and the vegetation requirements of Sections 817.111-817.117 are met and the quality of the untreated drainage from the disturbed area meets the applicable State and Federal water quality standards requirements for the receiving stream. Sedimentation ponds and treatment facilities for discharges from underground workings shall be maintained until either the discharge continuously meets the effluent limitations of this section without treatment or until the discharge has permanently ceased. The regulatory authority may grant exemptions from these requirements only in accordance with the following--

(1) The person who conducts the underground mining activities demonstrates that sedimentation ponds and treatment facilities are not necessary for the drainage to be exempted to meet the effluent limitations of this Section or the applicable State and Federal water quality requirements for downstream receiving waters; and,

(2) (i) For drainage from areas affected by surface operations and facilities, an exemption may be authorized only if the disturbed surface drainage area within the total disturbed surface area is small and there is no mixture of surface drainage with a discharge from underground mine workings; or,

(ii) For drainage from underground mine workings, exemption may be authorized only if there is no mixture of that drainage with drainage from surface areas.

For the purposes of this section only, "disturbed area" shall not include those areas affected by surface operations in which only diversion ditches, sedimentation ponds, or roads are installed in accordance with this Part and the upstream area is not otherwise disturbed by the person who conducts the underground mining activities, and shall also not include surface areas affected by underground operations, unless those surface areas are also affected by fills, support facilities, or other major activities incident to underground mining activities. Sedimentation ponds required by this section shall be constructed in accordance with Section 817.46, in appropriate locations before beginning any underground mining activities in the affected drainage area. Where the sedimentation ponds or series of sedimentation ponds is used so as to result in the mixing of drainage from the disturbed areas with drainage from other areas not disturbed by current surface coal mining and reclamation operations, the permittee shall achieve the effluent limitations below for all of the mixed drainage when it leaves the permit area. Discharges of water from areas disturbed by underground mining activities shall be made in compliance with all Federal and State laws and regulations and, at a minimum, the following numerical effluent limitations:

Effluent limitations, in milligrams per liter (mg/l) except for pH

Effluent characteristics[1]	Maximum allowable[2]	Average of daily values for 30 consecutive discharge days[6]
Iron, total-----------------	7.0	3.5
Manganese, total[3]-----------	4.0	2.0
Total suspended solids[4]-----	70.0	35.0
pH[5]------------------------	Within range of 6.0 to 9.0	------------

[1] To be determined according to collection and analytical procedures adopted by the Environmental Protection Agency's regulations for wastewater analyses (40 CFR 136).

[2] Based on representative sampling.

[3] The manganese limitations shall not apply to untreated discharges which are alkaline as defined by the Environmental Protection Agency (40 CFR 434).

[4] In Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming, total suspended solids limitations will be determined on a case-by-case basis, but they must not be greater than 45 mg/l (maximum allowable) and 30 mg/l (average of daily value for 30 consecutive discharge days) based on a representative sampling.

[5] Where the application of neutralization and sedimentation treatment technology results in inability to comply with the manganese limitations set forth, the regulatory authority may allow the pH level in the discharge to exceed to a small extent the upper limit of 9.0 in order that the manganese limitations will be achieved.

[6] Discharges from new sources, as defined under 40 CFR section 434.11(i), shall be limited to 6.0 mg/l (maximum allowable), 3.0 mg/l (average of daily values for 30 consecutive discharge days).

(b) A discharge from the disturbed area or underground mine workings is not subject to the effluent limitations of this section, if --

(1) The discharge is demonstrated by the discharger to have resulted from a precipitation event equal to or larger than a 10-year 24-hour precipitation event; and

(2) The discharge is from facilities designed, constructed, and maintained in accordance with the applicable requirements of this Part.

(c) Adequate facilities shall be installed, operated, and maintained to treat any water discharged from the disturbed area or discharged from the underground mine, so that it complies with all Federal and State laws and regulations and the limitations of this section. If the pH of water to be discharged from the disturbed area or mine is less than 6.0, an automatic lime feeder or other automatic neutralization process approved by the regulatory authority shall be installed, operated, and maintained. The regulatory authority may authorize the use of a manual system, if it finds that --

(1) Flow is infrequent and presents small and infrequent treatment requirements to meet applicable standards which do not require use of an automatic neutralization process; and

(2) Timely and consistent treatment is ensured.

§817.43
Hydrologic balance: Diversions and conveyance of overland flow

shallow ground water flow.

Overland flow, including flow through litter, and shallow ground water flow from undisturbed areas, and flow in ephemeral streams may be diverted away from disturbed areas by means of temporary or permanent diversions, if required or approved by the regulatory authority as necessary to minimize erosion, to reduce volume of water to be treated, and to prevent or remove water from contact with acid-forming and toxic-forming materials. The following requirements shall be met for all diversions and for all collection drains that are used to transport waters into water-treatment facilities and for all diversions of overland and shallow ground water flow--

(a) Temporary diversions shall be constructed to pass safely the peak runoff from a precipitation event with a 2-year recurrence interval, or a larger event as specified by the regulatory authority.

(b) To protect fills and property and to avoid danger to public health and safety, permanent diversions shall be constructed to pass safely the peak runoff from a precipitation event with a 10-year recurrence interval, or a larger event as specified by the regulatory authority. Permanent diversions shall be constructed with gently sloping banks that are stabilized by vegetation. Asphalt, concrete, or other similar linings shall be used, only when approved by the regulatory authority to prevent seepage or to provide stability.

(c) Diversions shall be designed, constructed, and maintained in a manner which prevents additional contributions of suspended solids to streamflow and to runoff outside the permit area, to the extent possible using the best technology currently available. Appropriate sediment control measures for these diversions may include, but not be limited to, maintenance of appropriate gradients, channel lining, revegetation, roughness structures, and detention basins.

(d) No diversion shall be located so as to increase the potential for land slides and no diversion shall be constructed on existing slides unless approved by the regulatory authority.

(e) When no longer needed, each temporary diversion shall be removed and the affected land regraded, topsoiled, and revegetated in accordance with Sections 817.24, 817.25, 817.101-817.105 and 817.111-817.117.

(f) Diversion design shall incorporate the following:

(1) Channel lining shall be designed using standard engineering practices to safely pass the design velocities. Riprap shall comply with the requirements of paragraph 817.72(b)(5).

(2) Design freeboard shall be no less than 0.3 feet. Additional freeboard protection shall be provided for transition of flows and for critical areas such as swales and curves. Where the area protected is a critical area as determined by the regulatory authority, the design freeboard may be increased.

(3) Energy dissipators shall be installed, when necessary, at discharge points where diversions intersect with natural streams when exit velocity of the diversion ditch flow is greater than that of the receiving stream.

(4) Excess excavated material not necessary for diversion channel geometry or regrading of the channel shall be disposed of in accordance with 30 CFR 817.71-817.73

(5) Topsoil removed from the diversion excavations shall be handled in accordance with 30 CFR 817.21-817.25.

(g) Diversions shall not be constructed or operated to divert water into underground mines without the approval of the regulatory authority under Section 817.55.

§817.44
Hydrologic balance: Stream channel diversions.

(a) Flow from perennial and intermittent streams within the permit area may be diverted if the diversions --

(1) Are approved by the regulatory authority after making the findings called for in Section 817.57.

(2) Comply with other requirements of this Subchapter; and

(3) Comply with local, State, and Federal statutes and regulations.

(b) When streamflow is allowed to be diverted, the stream channel diversion shall be designed, constructed, and removed, in accordance with the following:

(1) The longitudinal profile of the stream, the channel, and the flood plain shall be designed and constructed to remain stable and to prevent, to the extent possible using the best technology currently available, additional contributions of suspended solids to streamflow or to runoff outside the permit area. These contributions shall not be in excess of requirements of State or Federal law. Erosion control structures such as channel lining structures, retention basins, and artificial channel roughness structures shall be used in diversions only when approved by the regulatory authority as being necessary to control erosion. These structures shall be approved for permanent diversions only where they are stable and will require infrequent maintenance.

(2) The combination of channel, bank, and flood-plain configurations shall be adequate to pass safely the peak runoff of a 10-year, 24-hour precipitation event with a 10-year recurrence interval for temporary diversions, a 100-year, 24-hour precipitation event for permanent diversions, or larger events for either, as specified by the regulatory authority. However, the capacity of the channel itself should be at least equal to the capacity of the unmodified stream channel immediately upstream and downstream of the diversion.

(c) When no longer needed to achieve the purpose for which they are authorized, all temporary stream channel diversions shall be removed and the affected land regraded and revegetated, in accordance with the Sections 817.24, 817.25, 817.101-817.105, and 817.111-817.117. At the time diversions are removed, downstream water treatment facilities previously protected by the diversion shall be modified or removed to prevent overtopping or failure of the facilities. This requirement shall not relieve the person who conducts the underground mining activities from maintenance of a water treatment facility otherwise required under this Part or the permit.

(d) When permanent diversions are constructed or stream channels restored, the operator shall;

1. Establish or restore, enhance, or maintain natural reparian vegetation on the banks of the stream;
2. Establish or restore the stream to its natural meandering shape of an environmentally acceptable gradient; as determined by the regulatory authority.
3. Establish or restore the stream to a longitudinal profile and cross-section, including aquatic habitats (usually a pattern of riffles, pools, and drops rather than uniform depth) that approximate premining stream channel characteristics.

§817.45
Hydrologic balance: Sediment control measures.

Appropriate sediment control measures shall be designed, constructed, and maintained using the best technology currently available to:

(i) prevent to the extent possible additional contributions of sediment to stream flow or to runoff outside the permit area,
(ii) meet the more stringent of applicable State or Federal effluent limitations,
(iii) Minimize erosion to the extent possible.

Sediment control measures include practices carried out within and adjacent to the disturbed area. The sedimentation storage capacity of practices in and downstream from the disturbed areas shall reflect the degree to which successful mining and reclamation techniques are applied to reduce erosion and control sediment. Sediment control measures consist of the utilization of proper mining and reclamation methods and sediment control practices, singly or in combination. Sediment control methods include but are not limited to --

(a) Disturbing the smallest practicable area at any one time during the mining operation through progressive backfilling, grading, and prompt revegetation as required in Section 817.111(b);

(b) Stabilizing the backfilled material to promote a reduction of the rate and volume of runoff in accordance with the requirements of Section 817.101.

(c) Retaining sediment within disturbed areas;

(d) Diverting runoff away from disturbed areas;

(e) Diverting runoff using protected channels or pipes through disturbed areas so as not to cause additional erosion;

(f) Using straw dikes, riprap, check dams, mulches, vegetative sediment filters, dugout ponds, and other measures that reduce overland flow velocity, reduce runoff volume, or trap sediment;

(g) Treating with chemicals; and

(h) Treating mine drainage in underground sumps.

§817.46
Hydrologic balance: Sedimentation ponds.

(a) General requirements. Sedimentation ponds shall be used individually or in series and shall --

(1) Be constructed prior to any disturbance of the undisturbed area to be drained into the pond and prior to any discharge of water to surface waters from underground mine workings;

(2) Be located as near as possible to the disturbed area and out of perennial streams unless approved by the regulatory authority.

(3) Meet all the criteria in this Section.

(b) Sediment storage volume. Sedimentation ponds shall provide a minimum sediment storage volume equal to --

(1) The accumulated sediment volume from the drainage area to the pond for a minimum of 3 years or the life of the pond, whichever is greater. Sediment storage volume shall be determined using the Universal Soil Loss Equation, gully erosion rates, and the sediment delivery ratio converted to sediment volume using the sediment density. Other empirical methods derived from regional sediment pond studies may be used if approved by the regulatory authority; or

(2) 0.1 acre-foot for each acre of disturbed area within the upstream drainage area or a greater amount if required by the regulatory authority. The regulatory authority may approve a sediment storage volume of not less than 0.035 acre-foot for each acre of disturbed area within the upstream drainage area, if the person who conducts the underground mining activities has demonstrated that sediment removed by other sediment control measures is equal to the reduction in sediment storage volume; and

(3) The accumulated sediment volume necessary to retain sediment for 1 year in any discharge from the underground mine passing through the pond.

(c) Detention time. Sedimentation ponds shall provide the required theoretical detention time for the water inflow or runoff entering the pond from a 10-year, 24-hour precipitation event (design event), plus the average inflow from the underground mine. Theoretical detention time is defined as the average time that the design flow is detained in the pond; and is further defined as the time difference between the centroid of the inflow hydrograph and the centroid of the outflow hydrograph for the design event. Runoff diverted under Sections 817.43 and 817.44 away from the disturbed drainage areas and not passed through the sedimentation pond, need not be considered in sedimentation pond design. In determining the runoff volume, the characteristics of the mine site, reclamation procedures, and onsite sediment control practices shall be considered. Sedimentation ponds shall provide a theoretical detention time of not less than twenty-four hours, or any higher amount required by the regulatory authority except as provided under (1), (2), or (3) of this Subsection.

(1) The regulatory authority may approve a theoretical detention time of not less than 10 hours, when the person who conducts the underground mining activities demonstrates that--

(i) The improvement in sediment removal efficiency is equivalent to the reduction in detention time as a result of pond design. Improvements in pond design may include but are not limited to pond configuration, in-flow and out-flow facility locations, baffles to decrease in-flow velocity, and short-circuiting, and surface areas; and

(ii) The pond effluent is shown to achieve and maintain applicable effluent limitations.

(2) The regulatory authority may approve a theoretical detention time of not less than 10 hours when the person who conducts the underground mining activities demonstrates that the size distribution or the specific gravity of the suspended matter is such that applicable effluent limitations are achieved and maintained.

(3) The regulatory authority may approve a theoretical detention time of less than 24 hours to any level of detention time, when the person who conducts the underground mining activities demonstrates to the regulatory authority that the chemical treatment process to be used--

(i) Will achieve and maintain the effluent limitations;

(ii) Is harmless to fish, wildlife and related environmental values;

(4) The calculated theoretical detention time and all supporting documentation and drawings used to establish the required detention times under paragraphs (c) (1)-(3) of this section shall be included in the permit application.

(d) Dewatering. The water storage resulting from inflow shall be removed by a nonclogging dewatering device or a conduit spillway approved by the regulatory authority, and shall have a discharge rate to achieve and maintain the required theoretical detention time. The dewatering device shall not be located at a lower elevation than the maximum elevation of the sedimentation storage volume.

(e) Each person who conducts underground mining activities shall design, construct, and maintain sedimentation ponds to prevent short-circuiting to the extent possible.

(f) The design, construction, and maintenance of a sedimentation pond or other sediment control measures in accordance with this Section shall not relieve the person from compliance with applicable effluent limitations as contained in 30 CFR 816.42.

(g) There shall be no out-flow through the emergency spillway during the passage of the runoff resulting from 10-year, 24-hour precipitation events and lesser event through the sedimentation pond, regardless of the volume of water and sediment present from the underground mine during the runoff.

(h) Sediment shall be removed from sedimentation ponds when the volume of sediment accumulates to 60 percent of the design sediment storage volume. With the approval of the regulatory authority, additional permanent storage may be provided for sediment and/or water above that required for the design storage. Upon the approval of the regulatory authority for those cases where additional permanent storage is provided above that required for sediment under paragraph (b) of this section, sediment removal may be delayed until the remaining volume of permanent storage has decreased to 40 percent of the total sediment storage volume provided the theoretical detention time is maintained.

(i) An appropriate combination of principal and emergency spillways shall be provided to discharge safely the runoff from a 25-year, 24-hour precipitation event, or larger event specified by the regulatory authority, plus any inflow from the underground mine. The elevation of the crest of the emergency spillway shall be a minimum of 1.0 foot above the crest of the principal spillway. Emergency spillway grades and allowable velocities shall be approved by the regulatory authority.

(j) The minimum elevation of the top of the settled embankment shall be 1.0 foot above the water surface in the reservoir with the emergency spillway flowing at design depth. For embankments subject to settlement, this 1.0 foot minimum elevation requirement shall apply at all times, including the period after settlement.

(k) The constructed height of the dam shall be increased a minimum of 5 percent over the design height to allow for settlement, unless it has been demonstrated to the regulatory authority that the material used and the design will ensure against all settlement.

(l) The minimum top width of the embankment shall not be less than the quotient of $(H + 35)/5$, where H, in feet, is the height of the embankment as measured from the upstream toe of the embankment.

(m) The combined upstream and downstream side slopes of the settled embankment shall not be less than 1v:5h, with neither slope steeper than 1v:2h. Slopes shall be designed to be stable in all cases, even if flatter side slopes are required.

(n) The embankment foundation area shall be cleared of all organic matter, all surfaces sloped to no steeper than 1v:1h, and the entire foundation surface scarified.

(o) The fill material shall be free of sod, large roots and other large vegetative matter, and frozen soil, and in no case shall coal processing waste be used.

(p) The placing and spreading of fill material shall be started at the lowest point of the foundation. The fill shall be brought up in horizontal layers of such thickness as is required to facilitate compaction and meet the design requirements of this section. Compaction shall be conducted as specified in the design approved by the regulatory authority.

(q) If a sedimentation pond has an embankment that is more than 20 feet in height, as measured from the upstream toe of the embankment to the crest of the emergency spillway, or has a storage volume of 20 acre-feet or more, the following additional requirements shall be met:

(1) An appropriate combination of principal and emergency spillways shall be provided to safely discharge the runoff resulting from a 100-year, 24-hour precipitation event, a larger event specified by the regulatory authority, plus any in-flow from the underground mine.

(2) The embankment shall be designed and constructed with an acceptable static safety factor of at least 1.5, or a higher safety factor as designated by the regulatory authority to ensure stability.

(3) Appropriate barriers shall be provided to control seepage along conduits that extend through the embankment.

(4) The criteria of the Mine Safety and Health Administration as published in 30 CFR 77.216 shall be met.
(r) Each pond shall be designed and inspected during construction under the supervision of, and certified after construction by, a registered professional engineer.

(s) The entire embankment including the surrounding areas disturbed by construction shall be stabilized with respect to erosion by a vegetative cover or other means immediately after the embankment is completed. The active upstream face of the embankment where water is being impounded may be riprapped or otherwise stabilized. Areas in which the vegetation is not successful or where rills and gullies develop shall be repaired and revegetated, in accordance with Section 816.106.

(t) All ponds, including those not meeting the size or other criteria of 30 CFR 77.216(a), shall be examined for structural weakness, erosion, and other hazardous conditions and reports and notifications shall be made to the regulatory authority, in accordance with 30 CFR 77.216-3. With the approval of the regulatory authority, dams not meeting these criteria (30 CFR 77.216(a)) shall be examined four times per year.

(u) Sedimentation ponds shall not be removed until the disturbed area has been restored and the vegetation requirements of Sections 816.111-816.117 are met and the drainage entering the pond has met the applicable State and Federal water quality requirements for the receiving stream. When the sedimentation pond is removed, the affected land shall be regraded and revegetated in accordance with Sections 817.101, 817.105, and 817.111-817.117, unless the pond has been approved by the regulatory authority for retention as compatible with the approved postmining land use under Section 817.133. If the regulatory authority approves retention, the sedimentation pond shall meet all the requirements for permanent impoundments of Sections 817.49 and 817.56.

§817.47
Hydrologic balance: Discharge structures.

Discharge from sedimentation ponds, permanent and temporary impoundments, coal processing waste dams and embankments, and diversions shall be controlled by energy dissipators, riprap channels, and other devices, where necessary, to reduce erosion, to prevent deepening or enlargement of stream channels, and to minimize disturbance of the hydrologic balance. Discharge structures shall be designed according to standard engineering design procedures.

§817.48
Hydrologic balance: Acid-forming and toxic-forming materials.

Drainage from acid-forming and toxic-forming underground development waste and spoil, if any, into ground and surface water shall be avoided by --

(a) Identifying, burying, and treating, where necessary, materials which, in the judgment of the regulatory authority, may be detrimental to vegetation or that may adversely affect water quality, if not treated or buried; disposed of in accordance with the provisions of paragraph (c) of this Section;

(b) Preventing water from coming into contact with acid-forming and toxic-forming materials in accordance with Section 817.103, or other measures required by the regulatory authority; and

(c) Burying or otherwise treating all acid-forming or toxic-forming underground development waste and spoil within 30 days after they are first exposed on the mine site, or within a lesser period required by the regulatory authority. Temporary storage of such materials may be approved by the regulatory authority upon a finding that burial or treatment within 30 days is not feasible and will not result in any material risk of water pollution or other environmental damage. Storage shall be limited to the period until burial or treatment first becomes feasible. Acid-forming and toxic-forming underground development waste and spoil to be stored shall be placed on impermeable material and protected from erosion and contact with surface water.

§817.49
Hydrologic balance: Permanent and temporary impoundments.

(a) Permanent impoundments are prohibited unless authorized by the regulatory authority, upon the basis of the following demonstration:

(1) The quality of the impounded water shall be suitable, on a permanent basis for its intended use, and discharge of water from the impoundment shall not degrade the quality of

receiving waters to less than the water-quality standards established pursuant to applicable State and Federal laws.

(2) The level of water shall be sufficiently stable to support the intended use.

(3) Adequate safety and access to the impounded water shall be provided for proposed water users.

(4) Water impoundments will not result in the diminution of the quality or quantity of water used by adjacent or surrounding landowners for agricultural, industrial, recreational, or domestic uses.

(5) The design, construction, and maintenance of structures shall achieve the minimum design requirements applicable to structures constructed and maintained under the Watershed Protection and Flood Prevention Act, Pub. L. 83-566 (16 U.S.C. 1006). Requirements for impoundments that meet the size or other criteria of the Mine Safety and Health Administration, 30 CFR 77.216(a) are contained in U.S. Soil Conservation Service Technical Release No. 60, "Earth Dams and Reservoirs," June 1976. Requirements for impoundments that do not meet the size or other criteria contained in 30 CFR 77.216(a) are contained in U.S. Soil Conservation Service Practice Standard 378, "Ponds," October 1978. The technical release and practice standard are hereby incorporated by reference as they exist on the date of adoption of this Part. Notices of changes made in these publications will be periodically published by OSM in the Federal Register. Persons designing and constructing impoundments should obtain a copy of these publications. Technical Release No. 60 and Practice Standard 378 are on file and available for inspection at the OSM Central Office, U.S. Department of the Interior, South Interior Bldg. 1951 Constitution Ave., NW., Washington, D.C. 20240, at each OSM Regional Office, District Office, and Field Office and at the Central Office of the applicable State regulatory authority, if any. Copies of the publications may also be obtained by written request to the above locations. Incorporation-by-reference provisions have been approved by the Director of the Federal Register (date to be inserted).

(6) The size of the impoundment is adequate for its intended purposes.

(7) The impoundment will be suitable for the approved post-mining land use.

(b) Temporary impoundments of water in which the water is impounded in a dam shall meet the requirements of 30 CFR 817.46(e)-(u).

(c) Excavations that will impound water during or after the mining operation shall have perimeter slopes that are stable and shall not be steeper than 2h:1v. Where surface runoff enters the impoundedment area, the side slope shall be protected against erosion.

(d) Slope protection shall be provided to minimize surface erosion at the site and sediment-control measures shall be required where necessary to reduce the sediment leaving the site.

(e) All embankments of temporary and permanent impoundments, and the surrounding areas and diversion ditches disturbed or created by construction, shall be graded, fertilized, seeded, and mulched to comply with the requirements of 30 CFR 817.111-817.117 immediately after the embankment is completed, provided that the active, upstream face of the embankment where water will be impounded may be riprapped or otherwise stabilized. Areas in which the vegetation is not successful or where rills and gullies develop shall be repaired and revegetated to comply with the requirements of 30 CFR 817.106 and 30 CFR 817.111-817.117.

(f) All dams and embankments meeting the size or other criteria of 30 CFR 77.216(a) shall be routinely inspected by a qualified registered professional engineer, or by someone under the supervision of a qualified registered professional engineer, in accordance with 30 CFR 77.216-3.

(g) All dams and embankments shall be routinely maintained during the mining operations. Vegetative growth shall be cut where necessary to facilitate inspection and repairs. Ditches and spillways shall be cleaned. Any combustible materials present on the surface, other than material such as mulch or dry vegetation used for surface stability, shall be removed and all other appropriate maintenance procedures followed.

(h) All dams and embankments that meet or exceed the size or other criteria of 30 CFR 77.216(a) shall be certified to the regulatory authority by a qualified registered professional engineer, immediately after construction and annually thereafter, as having been constructed and/or maintained to comply with the requirements of this Section. All dams and embankments that do not meet the size or other criteria of 30 CFR 77.216(a) shall be certified by either a qualified registered professional engineer or a registered land surveyor, except that all coal processing waste dams and embankments covered by 30 CFR 317.91--817.93 shall be certified by a qualified registered professional engineer. Certification reports shall include statements on--

(1) Existing and required monitoring procedures and instrumentation;

(2) The design depth and elevation of any impounded waters at the time of the initial certification report or the average and maximum depths and elevations of any impounded waters over the past year for the annual certification reports;

(3) Existing storage capacity of the dam or embankment;

(4) Any fires occurring in the construction material up to the date of the initial certification or over the past year for the annual certification reports; and

(5) Any other aspects of the dam or embankment affecting stability.

(i) Plans for any enlargement, reduction in size, reconstruction, or other modification of dams or impoundments shall be submitted to the regulatory authority and shall comply with the requirements of this Section. Except where a modification is required to eliminate an emergency condition constituting a hazard to public health, safety, or the environment, the regulatory authority shall approve the plans before modification begins.

§817.50
Hydrologic balance: Ground water protection.

(a) Surface entries and accesses to underground workings, including adits and slopes, shall be located, designed, constructed, and utilized to prevent or control gravity discharge of water from the mine.

(b) Gravity discharge of water from an underground mine, other than a drift mine subject to paragraph (c) of this Section, may be allowed by the regulatory authority, if it is demonstrated that--

(1) (i) The discharge, without treatment, satisfies the water effluent limitations of 30 CFR 817.42 and all applicable State and Federal water quality standards; and

(ii) That discharge will result in changes in the prevailing hydrologic balance that are minimal and approved postmining land uses will not be adversely affected; or,

(2) (i) The discharge is conveyed to a treatment facility in the permit area in accordance with Section 817.42(a);

(ii) All water from the underground mine discharged from the treatment facility meets the effluent limitations of Section 817.42 and all other applicable State and Federal statutes and regulations; and

(iii) Consistent maintenance of the treatment facility will occur throughout the the anticipated period of gravity discharge.

(c) Notwithstanding anything to the contrary in paragraphs (a) and (b) of this Section, for a drift mine first used after the implementation of a State or Federal program and located in acid-producing or iron-producing coal seams, surface entries and accesses shall be located in such a manner as to prevent any gravity discharge from the mine.

§817.52
Hydrologic balance: Surface and ground water monitoring.

(a) Ground water.

(1) Ground water levels, infiltration rates, subsurface flow and storage characteristics, and the quality of ground water shall be monitored in a manner approved by the regulatory authority, to determine the effects of underground mining activities on the recharge capacity of reclaimed lands and on the quantity and quality of water in ground water systems in the mine plan and adjacent areas.

(2) When underground mining activities may affect ground water systems which serve as aquifers which significantly ensure the hydrologic balance of water use either on or off the mine plan area, ground levels and ground water quality shall be periodically monitored. Monitoring shall include measurements from a sufficient number of wells and mineralogical and chemical analyses of aquifer, overburden, and spoil that are adequate to reflect changes in ground water quantity and quality resulting from those activities. Monitoring shall be adequate to plan for modification of the underground mining activities if necessary to minimize disturbance to the prevailing hydrologic balance.

(3) As specified and approved by the regulatory authority, the person who conducts the underground mining activities shall conduct additional hydrologic tests, including drilling, infiltration tests and aquifer tests, and the results shall be submitted to the regulatory authority to demonstrate compliance with Section 817.50 and this Section.

(b) Surface water.

(1) Surface water monitoring shall be conducted in accordance with the monitoring program submitted under 30 CFR 784.14(b)(3) and approved by the regulatory authority. The regulatory authority shall determine the nature of data, frequency of collection, and reporting requirements. Monitoring shall--

(i) Be adequate to measure accurately and record water quantity and quality of discharges from the permit area;

(ii) All cases in which analytical results of the sample collections indicate noncompliance with a permit condition or applicable standard has occurred shall result in the person who conducts underground mining activities notifying the regulatory authority within 5 days. Where a National Pollutant Discharge Elimination System (NPDES) permit effluent limitation noncompliance has occurred, the person who conducts the underground mining activities shall forward the analytic results concurrently with the written notice of non-compliance.

(iii) Result in quarterly reports to the regulatory authority, to include analytical results from each sample taken during the quarter. Any sample results which indicate a permit violation will be reported immediately to the regulatory authority. In those cases where the discharge for which water monitoring reports are required is also subject to regulation by a NPDES permit issued under the Clean Water Act of 1977 (30 U.S.C. 1251-1378) and where such permit includes provisions for equivalent reporting requirements and requires filing of the water monitoring reports within 90 days or less of sample collection, the following alternative procedure shall be used. The person who conducts the underground mining activities shall submit to the regulatory authority on the same time schedule as required by the NPDES permit, or within 90 days following sample collection, whichever is earlier, either-

(A) A copy of the completed reporting form filed to meet NPDES permit requirements; or

(B) A letter identifying the State or Federal government official with whom the reporting form was filed to meet NPDES permit requirements and the date of filing.

(2) Surface water flow and quality, including discharges to surface waters from the permit area, and receiving waters, shall continue to be monitored after both the cessation of use of underground mine workings and after surface disturbed areas have been regraded and stabilized according to this Part. Data from this monitoring may be used to demonstrate that the quality and quantity of runoff without treatment is consistent with the requirement of this Part to minimize disturbance to the prevailing hydrologic balance and to attain the approved post-mining land use. These data may also provide a basis for

approval by the regulatory authority for removal of water quality or flow control systems.

(3) Equipment, structures, and other devices necessary to measure and sample accurately the quality and quantity of surface water discharges from the surface disturbed area and from underground mine workings shall be properly installed, maintained, and operated and shall be removed when no longer required.

§817.53
Hydrologic balance: Transfer of wells.

(a) An exploratory or monitoring well may only be transferred by the person who conducts underground mining activities for further use as a water well with the prior approval of the regulatory authority. That person and the surface owner shall submit a written request to the regulatory authority for that approval.

(b) Upon an approved transfer of a well, the transferee shall--

(1) Assume primary liability for damages to persons or property from the well;

(2) Plug the well when necessary, but in no case later than abandonment of the well; and

(3) Assume primary responsibility for compliance with Sections 817.13-817.15 with respect to the well.

(c) Upon an approved transfer of a well, the transferor shall be secondarily liable for the transferee's obligations under paragraph (b) of this Section, until release of the bond or other equivalent guarantee required by Subchapter J for the area in which the well is located.

§817.54
Hydrologic balance: Water rights and replacement.

Any person who conducts underground mining activities shall replace the water supply of an owner of interest in real property who obtains all or part of his supply of water for domestic, agricultural, industrial, or other legitimate use from an underground or surface source, where the water supply has been affected by contamination, diminution, or interruption proximately resulting from the underground mining activities.

§817.55
Hydrologic balance: Discharge of water into an underground min

Water from the surface or from an underground mine shall not be diverted or discharged into other underground mine workings, unless the person who conducts the underground mining activities demonstrates to the regulatory authority that the discharge will--

(a) Abate water pollution or otherwise eliminate public hazards resulting from underground mining activities;

(b) Be discharged as a controlled flow;

(c) Meets the effluent limitations of Section 817.42 for pH and total suspended solids, except that the pH and total suspended solid limitations may be exceeded, if approved by the regulatory authority and is limited to --

(1) Coal processing waste;

(2) Underground mine development waste;

(3) Fly ash from a coal-fired facility;

(4) Sludge from an acid mine drainage treatment facility;

(5) Flue gas desulfurization sludge; or

(6) Inert materials used for stabilizing underground mines;

(d) Continues as a controlled and identifiable flow and is ultimately treated by an existing treatment facility;

(e) In any event, the discharge from underground mines to surface waters will not cause, result in, or contribute to a violation of applicable water quality standards or effluent limitations;

(f) Minimizes disturbance to the hydrologic balance; and
(g) Meets with the approval of the Mine Safety and Health Administration.

§817.56
Hydrologic balance: Postmining rehabilitation of sedimentation ponds, diversions, impoundments, and treatment facilities.

Before abandoning the permit area, the person who conducts the underground mining activities shall renovate all permanent sedimentation ponds, diversions, impoundments and treatment facilities to meet criteria specified in the detailed design plan for the permanent structures and impoundments.

§817.57
Hydrologic balance: Stream buffer zones.

(a) No surface area within 100 feet of a perennial stream or a stream with a biological community measured according to (c) below shall be disturbed by surface operations and facilities except in accordance with Section 817.44, unless the regulatory authority specifically authorizes underground mining activities closer to or through such a stream upon finding --

(1) That the original stream channel will be restored; and

(2) During and after the mining, the water quantity and quality from the stream section within 100 feet of the underground mining activities shall not be adversely affected.

(b) The area not to be disturbed shall be designated a buffer zone and marked as specified in Section 817.11.

(c) A stream with a biological community shall be determined by the existence in the stream at any time of an assemblage of two or more species of arthropods or mulluscan animals which are--

(1) Adapted to flowing water for all or part of their life cycle;

(2) Dependent upon a flowing water habitat;

(3) Reproducing or can reasonable be expected to reproduce in the water body where they are found; and

(4) Longer than 2 millimeters at some stage or part of their life cycle spent in the flowing water habitat.

§817.59
Coal recovery.

Underground mining activities shall be conducted so as to maximize the utilization and conservation of the coal, while utilizing the best technology currently available to maintain environmental integrity so that reaffecting the land in the future through surface coal mining operations is minimized.

§817.61
Use of explosives: General requirements.

(a) Sections 817.61 through 817.68 apply only to surface blasting activities incident to underground mining, including, but not limited to initial rounds of slopes and shafts.

(b) Each person who conducts underground mining activities shall comply with all applicable State and Federal laws and in the use of explosives.

(c) All blasting operations shall be conducted by experienced, trained, and competent persons who understand the hazards involved. Each person responsible for blasting operations shall possess a valid certification as required by 30 CFR 850.

§817.62
Use of explosives: Preblasting survey.

(a) On the request to the regulatory authority by a resident or owner of a dwelling or structure that is located within one-half mile of any surface blasting activity covered by Section 817.61-817.68, the person who conducts the underground mining activities shall promptly conduct a pre-blasting survey of the dwelling or structure and promptly submit a report of the survey to the regulatory authority and to the person requesting the survey. If a structure is renovated or added to, subsequent to a preblast survey, then upon request to the regulatory authority a survey of such additions and renovations shall be performed in accordance with this Section.

(b) The survey shall determine the condition of the dwelling or structure and document any preblasting damage and other physical factors that could reasonably be affected by the blasting. Assessments of structures such as pipes, cables, transmission lines, and wells and other water systems shall be limited to surface condition and readily available data. Special attention shall be given to the preblasting condition of wells and other water systems used for human, animal, or agricultural purposes and to the quantity and quality of the water.

(c) A written report of the survey shall be prepared and signed by the person who conducted the survey. The report may include recommendations of any special conditions or proposed adjustments to the blasting procedure which should be incorporated into the blasting plan to prevent damage. Copies of the report shall be provided to the person requesting the survey and to the regulatory authority. If the person requesting the survey disagrees with the results of the survey, he or she may notify, in writing, both the permittee and the regulatory authority of the specific areas of disagreement.

§817.65
Use of explosives: Surface blasting requirements.

(a) A resident or owner of a dwelling or structure that is located within one-half mile of any area affected by surface blasting activities shall be notified approximately 24 hours prior to any surface blasting event.

(b) All blasting shall be conducted between sunrise and sunset.

(1) The regulatory authority may specify more restrictive time periods, based on public requests or other relevant information according to the need to adequately protect the public from adverse noise.

(2) Blasting may, however, be conducted between sunset and sunrise if:

(i) a blast that has been prepared during the afternoon must be delayed due to the occurrence of an unavoidable hazardous condition and cannot be delayed until the next day because a potential safety hazard would result that cannot be adequately mitigated;

(ii) in addition to the required warning signals, oral notices are provided to persons within one-half mile of the blasting site; and

(iii) a complete written report of blasting at night is filed by the person conducting the surface blasting activities with the regulatory authority not later than 3 days after the night blasting. The report shall include a description in detail of the reason for the delay in blasting including why the blasting could not be held over to the next day, when the blast was actually conducted, the warning notices given, and a copy of the blast report required by Section 817.68.

(c) Warning and all-clear signals of different character that are audible within a range of one-half mile from the point of the blast shall be given. Each person within the permit area and each person who resides or regularly works within one-half mile of the permit area shall be notified of the meaning of the signals through appropriate instructions. These instructions shall be periodically delivered or otherwise communicated in a manner which can reasonably be expected to inform such persons of the meaning of the signals. Each person who conducts surface blasting incident to underground mining activities shall maintain signs in accordance with Section 817.11(f).

(d) Access to an area possibly subject to flyrock from blasting shall be regulated to protect the public and livestock. Access to the area shall be controlled to prevent the presence of livestock or unauthorized personnel during blasting until an authorized representative of the person who conducts the underground mining activities has reasonably determined --

(1) That no unusual circumstances, such as imminent slides or undetonated charges, exist; and

(2) That access to and travel in or through the area can be safely resumed.

(e) (1) Airblast shall be controlled so that it does not exceed the values specified below at any dwelling, public building, school, church, or commercial or institutional building, unless such structure is owned or leased by the person who conducts the underground mining activities and is not leased to any other person. If a building owned by the person conducting the underground mining activities is leased to another person, that person may sign a waiver relieving the operator from meeting the airblast limitations of this paragraph.

Lower frequency limit of measuring system, Hz (±3 dB)	Maximum level in dB
0.1 Hz or lower--flat response----------------------	135 peak.
2 Hz or lower--flat response------------------------	132 peak.
6 Hz or lower--flat response------------------------	130 peak.
C-weighted, slow response---------------------------	109 C.

(2) In all cases except the C-weighted, slow response, the measuring systems used must have a flat frequency response of at least 200 Hz at the upper end. The C-weighted shall be measured with a type 1 sound level meter that meets the standard ANSI S1.4-1971 specifications.

The ANSI S1.4-1971 is hereby incorporated by reference as it exists on the date of adoption of this Part. Notices of changes made to this pulication will be periodically published by OSM in the Federal Register. Persons using these instruments and other interested persons should obtain a copy of this publication. ANSI S1.4-1971 is on file and available for inspection at the OSM Central Office, U.S. Department of the Interior, South Interior Building, Washington, D.C. 20240, at each OSM Regional Office, District Office, and Field Office and at the central office of any applicable State regulatory authority. Copies of the publcation may also be obtained by written request to the above locations. Incorporation by reference provisions approved by the Director of the Federal Register (date).

(3) The person who conducts blasting may satisfy the provisions of this section by meeting any one of the four specifications in the chart in paragraph (e)(1) of this Section.

(4) The regulatory authority may require an airblast measurement of any or all blasts, and may specify the location of such measurements.

(f) Except where lesser distances are approved by the regulatory authority based upon a preblasting survey, seismic investigations, or other appropriate investigations, blasting shall not be conducted within --

(1) 1,000 feet of any building used as a dwelling, school, church, hospital, or nursing facility; and

(2) 500 feet of facilities including, but not limited to, disposal wells, petroleum or gas-storage facilities, municipal water-storage facilities, fluid-transmission pipelines, gas or oil-collection lines, or water and sewage lines.

(g) Flyrock, including blasted material traveling along the ground, shall not be cast from the blasting vicinity more than half the distance to the nearest dwelling or other occupied structure and in no case beyond the line of property owned or leased by the permittee, or beyond the area of regulated access required under paragraph (d) of this Section.

(h) Blasting shall be conducted to prevent injury to persons, damage to public or private property outside the permit area, adverse impacts on any underground mine, and change in the course, channel, or availability of ground or surface waters outside the permit area.

(i) In all blasting operations, except as otherwise authorized in this Section, the maximum peak particle velocity shall not exceed 1 inch per second at the location of any dwelling, public building, school, church, or commercial or institutional building. Peak particle velocities shall be recorded in 3 mutually perpendicular directions. The maximum peak particle velocity shall be the largest of any of the three measurements. The regulatory authority may reduce the maximum peak particle velocity allowed, if it determines that a lower standard is required because of density of population or land use, age or type of structure, geology or hydrology of the area, frequency of blasts, or other factors.

(j) If blasting is conducted to prevent adverse impacts on any underground mine and changes in the course, channel, or availability of ground or surface water outside the permit area, then the maximum peak particle velocity limitation of paragraph (i) of this Section shall not apply at the following locations.

(1) At structures owned by the person conducting the mining activity, and not leased to another party.

(2) At structures owned by the person conducting the mining activity, and leased to another party, if a written waiver by the lessee is submitted to the regulatory authority prior to blasting.

(k) An equation for determining the maximum weight of explosives that can be detonated within any 8-millisecond period is in paragraph (l) of this Section. If the blasting is conducted in accordance with this equation, the peak particle velocity shall be deemed to be within the 1-inch-per-second limit.

(l)(1) The maximum weight of explosives to be detonated within any 8-millisecond period may be determined by the formula W =(D /60) G2 2 G1 where W = the maximum weight of explosives, in pounds, that can be detonated in any 8-millisecond period, and D = the distance, in feet, from the blast to the nearest dwelling, school, church, or commercial or institutional building.

(2) For distances between 300 and 5,000 feet, solution of the equation results in the following maximum weight:

Distance, in feet (D)	Maximum weight, in pounds (W)	Distance, in feet (D)	Maximum weight, in pounds (W)
300	25	1,500	625
350	34	1,600	711
400	44	1,700	803
500	69	1,800	900
600	100	1,900	1,002
700	136	2,000	1,111
800	178	2,500	1,736
900	225	3,000	2,500
1,000	278	3,500	3,403
1,100	336	4,000	4,444
1,200	400	4,500	5,625
1,300	469	5,000	6,944
1,400	544		

§817.67
Use of explosives: Seismographic measurements.

(a) Where a seismograph is used to monitor the velocity of ground motion and the peak particle velocity limit of 1 inch per second is not exceeded, the equation in Section 817.65(l) need not be used. If that equation is not used by the person conducting underground mining activities, a seismographic record shall be obtained for each shot.

(b) The use of a modified equation from that specified in Section 817.65(l), to determine maximum weight of explosives per delay for blasting operations at a particular site, may be approved by the regulatory authority, on receipt of a petition accompanied by reports including seismograph records of test blasting on the site. In no case shall the regulatory authority approve the use of a modified equation where the peak particle velocity of 1 inch per second required in Section 817.65(i) would be exceeded.

(c) The regulatory authority may require a seismograph record of any or all blasts and may specify the location at which such measurements are taken.

§817.68
Use of explosives: Records of blasting operations.

A record of each blast, including seismograph reports, shall be retained for at least 3 years and shall be available for inspection by the regulatory authority and the public on request. The record shall contain the following data:

(a) Name of the operator conducting the blast.

(b) Location, date, and time of blast.

(c) Name, signature, and license number of blaster-in-charge.

(d) Direction and distance, in feet, to the nearest dwelling, school, church, or commercial or insitutional building either--

(1) Not located in the permit area; or

(2) Not owned nor leased by the person who conducts the underground mining activities.

(e) Weather conditions, including temperature, wind direction, and approximate velocity.

(f) Type of material blasted.

(g) Number of holes, burden, and spacing.

(h) Diameter and depth of holes.

(i) Types of explosives used.

(j) Total weight of explosives used.

(k) Maximum weight of explosives detonated within any 8-millisecond period.

(l) Maximum number of holes detonated within any 8-millisecond period.

(m) Initiation system.

(n) Type and length of stemming.

(o) Mats or other protections used.

(p) Type of delay detonator and delay periods used.

(q) Sketch of the delay pattern.

(r) Number of persons in the blasting crew.

(s) Seismographic records, where required, including the calibration signal of the gain setting and --

(1) Seismograph reading, including exact location of seismograph and its distance from the blast;

(2) Name of the person taking the seismograph reading; and

(3) Name of person and firm analyzing the seismograph record.

§817.71
Disposal of underground development waste and excess spoil: Ge requirements.

(a) Underground development waste and spoil not required to achieve the approximate original contour and which is not used as backfill shall be hauled or conveyed to and placed in designated disposal areas within a permit area if the disposal areas are authorized for such purposes in the approved permit application in accordance with Sections 817.71-817.73. The material shall be placed in a controlled manner to ensure--

(1) That leachate and surface runoff from the fill will not degrade surface or ground waters or exceed the effluent limitations of Section 817.42;

(2) Stability of the fill; and

(3) That the land mass designated as the disposal area is suitable for reclamation and revegetation compatible with the natural surroundings.

(b) The fill shall be designed using recognized professional standards, certified by a registered professional engineer, and approved by the regulatory authority.

(c) All vegetative and organic materials shall be removed from the disposal area and the topsoil shall be removed, segregated and stored or replaced in accordance with Sections 817.21 and 817.25. If approved by the regulatory authority, organic material may be used as mulch or may be included in the topsoil to control erosion, promote growth of vegetation, or increase the moisture retention of the soil.

(d) Slope protection shall be provided to minimize surface erosion at the site. Diversion design shall conform with the requirements of Section 816.43. All disturbed areas, including diversion ditches that are not rip-rapped, shall be vegetated upon completion of construction.

(e) The disposal areas shall be located on the most moderately sloping and naturally stable areas available as approved by the regulatory authority. If such placement provides additional stability and prevents mass movement, fill materials suitable for disposal shall be placed upon or above a natural terrace, bench, or berm.

(f) The fill materials shall be hauled or conveyed and placed in horizontal lifts in a controlled manner, concurrently compacted as necessary to ensure mass stability and prevent mass movement, covered, and graded to allow surface and sub-surface drainage to be compatible with the natural surroundings and ensure a long term static safety factor of 1.5.

(g) The final configuration of the fill must be suitable for postmining land uses approved in accordance with Section 817.133, except that no depressions or impoundments shall be allowed on the completed fill.

(h) Terraces may be utilized to control erosion and enhance stability if approved by the regulatory authority and consistent with Section 817.102(b).

(i) Where the slope in the disposal area exceeds 1v:2.8h (36 percent), or such lesser slope as may be designed by the regulatory authority based on local conditions, keyway cuts (excavations to stable bedrock) or rock toe buttresses shall be constructed to stabilize the fill. Where the toe of the spoil rests on a downslope, stability analyses shall be performed in accordance with Section 780.35(c) to determine the size of the rock toe buttresses or keyway cuts.

(j) The fill shall be inspected for stability by a registered engineer or other qualified professional specialist experienced in the construction of earth and rockfill embankments at least quarterly throughout construction, and during the following critical construction periods: (1) removal of all organic material and topsoil, (2) placement of underdrainage systems, (3) installation of surface drainage systems, (4) initial placement and compaction of fill materials, and (5) revegetation. The registered engineer or other qualified professional specialist shall provide to the regulatory authority a certified report within 2 weeks after each inspection that the fill has been constructed as specified in the design approved by the regulatory authority. A copy of the report shall be retained at the minesite.

(k) Coal processing waste shall not be disposed of in valley or head-of-hollow fills and may be disposed of in underground development waste, or in excess spoil fills, if such waste is--

(1) Placed in accordance with Section 817.85;

(2) Demonstrated to be non-toxic and non-acid forming; and

(3) Demonstrated to be consistent with the design stability of the fill.

(l) If the disposal area contains springs, natural or manmade watercourses, or wet weather seeps, an underdrain system consisting of durable rock shall be constructed from the wet areas in a manner that prevents infiltration of the water into the spoil material. The underdrain system shall be protected by an adequate filter and shall be designed and constructed using standard geotechnical engineering methods.

(m) The foundation and abutments of the fill shall be stable under all conditions of construction and operation. Sufficient foundation investigations and laboratory testing of foundation materials shall be performed in order to determine the design requirements for stability of the foundation. Analyses of foundation conditions shall include the effect of underground mine workings, if any, upon the stability of the structure.

(n) Underground development waste and excess spoil may be returned to underground workings or disposed of only in accordance with the plans submitted under 30 CFR 784.25 and approved by the regulatory authority.

§817.72
Disposal of underground development waste and excess spoil: Va fills.

Valley fills shall meet all of the requirements of Section 817.71 and the additional requirements of this Section.

(a) The fill shall be designed to attain a long term static safety factor of 1.5, based upon data obtained from subsurface exploration, geotechnical testing, foundation design, and accepted engineering analyses.

(b) A sub-drainage system for the fill shall be constructed in accordance with the following:

(1) A system of underdrains constructed of durable rock shall meet the requirements of paragraph (b)(5) of this section and:

(i) Be installed along the natural drainage system;

(ii) Extend from the toe to the head of the fill; and

(iii) Contain lateral drains to each area of potential drainage or seepage.

(2) A filter system to ensure the proper functioning of the rock underdrain system shall be designed and constructed using standard geotechnical engineering methods.

(3) Rock underdrain size and gradation shall be determined using standard geotechnical design practices or the following table:

Total amount of fill material	Predominant type of fill material	Minimum size of drain, in feet	
		Width	Height
Less than 1,000,000 cubic yards--	Sandstone--------	10	4
Do--------------------------	Shale------------	16	8
More than 1,000,000 cubic yards--	Sandstone--------	16	8
Do--------------------------	Shale------------	16	16

(5) Underdrains shall consist of non-degradable, non-acid or toxic forming rock such as natural sand and gravel, sandstone, limestone, or other durable rock that will not slake in water and will be free of coal, clay, or shale.

(c) (1) Underground development waste and excess spoil shall be hauled or conveyed and placed in a controlled manner and concurrently compacted as specified by the regulatory authority, in lifts no greater than four feet or less if required by the regulatory authority, to--

(i) Achieve the densities designed to ensure mass stability;

(ii) Prevent mass movement;

(iii) Avoid contamination of the rock underdrain or rock core; and

(iv) Prevent formation of voids.

(d) Surface water runoff from the area above the fill shall be diverted away from the fill and into stabilized diversion channels designed to pass safely the runoff from the 100-year, 24-hour precipitation event or larger event specified by the regulatory authority. Surface runoff from the fill surface shall be diverted to stabilized channels off the fill which will safely pass runoff from a 100-year, 24-hour precipitation event.

(e) The tops of the fill and any terrace constructed to stabilize the face shall be graded no steeper than lv:20h (5 percent). The vertical distance between terraces shall not exceed 50 feet.

(f) Drainage shall not be directed over the outslope of the fill.

(g) The outslope of the fill shall not exceed lv:2h (50 percent). The regulatory authority may require a flatter slope.

§817.73
Disposal of underground development waste and excess spoil: Head-of-hollow fills.

Disposal of underground development waste and excess spoil in the head-of-hollow fill shall meet all standards set forth in Sections 817.71 and 817.72 and the additional requirements of this Section.

(a) The fill shall be designed to completely fill the disposal site to the approximate elevation of the ridgeline. A rock-core chimney drain may be utilized instead of the subdrain and surface diversion system required for valley fills. If the crest of the fill is not approximately at the same elevation as the low point of the adjacent ridgeline, the fill must be designed as specified in Section 817.72, with diversion of runoff around the fill.

(b) The alternative rock-core chimney drain system shall be designed and incorporated into the construction of head-of-hollow fills as follows:

(1) The fill shall have, along the vertical projection of the main buried stream channel or rill, a vertical core of durable rock at least 16 feet thick which shall extend from the toe of the fill to the head of the fill, and from the base of the fill to the surface of the fill. A system of lateral rock underdrains shall connect this rock core to each area of potential drainage or seepage in the disposal area. Rocks used in the rock core and underdrains shall meet the requirements of Section 817.72(b).

(2) A filter system to insure the proper functioning of the rock core shall be designed and constructed using standard geotechnical engineering methods.

(3) The grading may drain surface water away from the outslope of the fill and toward the rock core. The maximum slope of the top of the fill shall be lv:33h (3 percent).

Instead of the requirements of Section 817.71(g), a drainage pocket may be maintained at the head of the fill during and after construction, to intercept surface runoff and discharge the runoff through or over the rock drain, if stability of the fill is not impaired. In no case shall this pocket or sump have a potential for impounding more than 10,000 cubic feet of water. Terraces on the fill shall be graded with a 3- to 5-percent grade toward the fill and a 1-percent slope toward the rock core.

(c) The drainage control system shall be capable of safely passing the runoff from a 100-year, 24-hour precipitation event or larger event specified by the regulatory authority.

817.74
Disposal of excess spoil: Durable rock fills.

In lieu of the requirements of 817.72 and 817.73, the regulatory authority may approve alternate methods for disposal of hard rock spoil, including fill placement by dumping in a single lift, on a site specific basis, provided the services of a registered professional engineer experienced in the design and construction of earth and rockfill embankments are utilized and provided the requirements of this Section and Section 816.71 are met. For this section, hard rock spoil shall be defined as rockfill consisting of at least 80 percent sandstone, limestone, or other rocks that do not slake in water. Resistance of the hard rock spoil to slaking shall be determined by using the slake index and slake durability tests in accordance with guidelines and criteria established by the regulatory authority.

(a) Spoil is to be transported and placed in a specified and controlled manner which will ensure stability of the fill.

(1) The method of spoil placement shall be designed to ensure mass stability and prevent mass movement in accordance with the additional requirements of this Section.

(2) Loads of noncemented clay shale and/or clay spoil in the fill shall be mixed with hard rock spoil in a controlled manner to limit on a unit basis concentrations of noncemented clay shale and clay in the fill. Such materials will comprise no more than 20% of the fill volume as determined by tests performed by a registered engineer and approved by the regulatory authority.

(b) (1) Stability analyses shall be made by the registered professional engineer. Parameters used in the stability analyses shall be based on adequate field reconnaissance, subsurface investigations, including borings, and laboratory tests.

(2) The embankment which constitutes the valley fill or head-of-hollow fill shall be designed with the following factors of safety:

Case	Design condition	Minimum factor of safety
I	End of construction	1.5
II	Earthquake	1.1

(c) The design of a head-of hollow fill shall include an internal drainage system which will ensure continued free drainage of anticipated seepage from precipitation and from springs or wet weather seeps.

(1) Anticipated discharge from springs and seeps and due to precipitation shall be based on records and/or field investigations to determine seasonal variation. The design of the internal drainage system shall be based on the maximum anticipated discharge.

(2) All granular material used for the drainage system shall be free of clay and consist of durable particles such as natural sands and gravels, sandstone, limestone or other durable rock which will not slake in water.

(3) The internal drain shall be protected by a properly designed filter system.

(d) Surface water runoff from the areas adjacent to and above the fill shall not be allowed to flow onto the fill and shall be diverted into stabilized channels which are designed to safely pass the runoff from a 100-year, 24-hour precipitation event. Diversion design shall comply with the requirements of Section 817.43(f).

(e) The top surface of the completed fill shall be graded such that the final slope after settlement will be no steeper than 1v:20h (5 percent) toward properly designed drainage channels in natural ground along the periphery of the fill. Surface runoff from the top surface of the fill shall not be allowed to flow over the outslope of the fill.

(f) Surface runoff from the outslope of the fill shall be diverted off the fill to properly designed channels which will safely pass a 100-year, 24-hour precipitation event. Diversion design shall comply with the requirements of Section 817.43(f).

(g) Terraces shall be constructed on the outslope if required for control of erosion or for roads included in the approved postmining land use plan. Terraces shall meet the following requirements:

(1) The slope of the outslope between terrace benches shall not exceed 1v:2h.

(2) To control surface runoff, each terrace bench shall be graded to a slope of 1v:20h (5 percent) toward the embankment. Runoff shall be collected by a ditch along the intersection of each terrace bench and the outslope.

(3) Terrace ditches shall have a 5 percent slope toward the channels specified in paragraph (f) above, unless steeper slopes are necessary in conjunction with approved roads.

§817.81
Coal processing waste: General requirements.

(a) All coal processing waste shall be hauled or conveyed and placed in new and existing disposal areas approved by the regulatory authority for this purpose. The disposal area shall be designed, constructed and maintained --

(1) In accordance with Sections 817.71 and 817.72, this Section, and Sections 817.82-817.88; and

(2) To prevent combustion.

(b) Coal processing waste materials from activities located outside a permit area, such as those activities at other mines or abandoned mine waste piles, may be disposed of in the permit area only if approved by the regulatory authority. Approval shall be based on a showing by the person who conducts underground mining activities in the permit area, using hydrologic, geologic, physical, and chemical analyses, that disposal of these materials does not --

(1) Adversely affect water quality, water flow, or vegetation;

(2) Create public health hazards; or

(3) Cause instability in the disposal areas.

§817.82
Coal processing waste banks: Inspection.

(a) All coal processing waste banks shall be inspected, on behalf of the person conducting underground mining activities, by an engineer or other person approved by the regulatory authority.

(1) Inspections shall occur at least quarterly, beginning within 7 days after preparation of the disposal area begins. The regulatory authority shall require more frequent inspections based upon an evaluation of the potential danger to the health or safety of the public and the potential harm to land, air and water resources. Inspections may terminate when the coal processing waste bank has been graded, covered in accordance with Section 817.85, topsoil has been distributed on the bank in accordance with Section 817.24, or at such a later time as the regulatory authority may require.

(2) Inspections shall include such observations and tests as may be necessary to evaluate the potential hazard to human life and property, ensure that all organic material and topsoil have been removed and that proper construction and maintenance are occurring in accordance with the plan submitted under 30 CFR 784.15 and approved by the regulatory authority.

(3) The engineer or other approved inspector shall consider steepness of slopes, seepage, and other visible factors which could indicate potential failure, and the results of failure with respect to the threat to human life and property.

(4) Copies of the inspection findings shall be maintained at the mine site.

(b) If any inspection discloses that a potential hazard exists, the regulatory authority shall be informed promptly of the finding and of the emergency procedures formulated for public protection and remedial action. If adequate procedures cannot be formulated or implemented, then the regulatory authority shall be notified immediately. The regulatory authority shall then notify the appropriate emergency agencies that other emergency procedures are required to protect the public from the coal processing waste area.

§817.83
Coal processing waste banks: Water control measures.

(a) A properly designed sub-drainage system shall be provided, which shall --

(1) Intercept all ground water sources;

(2) Be protected by an adequate filter; and

(3) Be covered so as to protect against the entrance of surface water or leachate from the coal processing waste.

(b) All surface drainage from the area above the coal processing waste bank and from the crest and face of the waste disposal area shall be diverted, in accordance with Section 817.72(d).

(c) Slope protection shall be provided to minimize surface erosion at the site. All disturbed areas, including diversion ditches that are not riprapped, shall be vegetated upon completion of construction.

(d) Discharges of all water from a coal processing waste bank shall comply with the 30 CFR 817.41, 817.42, 817.45-817.46, 817.52, and 817.55.

§817.85
Coal processing waste banks: Construction requirements.

(a) Coal processing waste banks shall be constructed in compliance with 30 CFR 817.71 and 817.72, except to the extent the requirements of those Sections are specifically varied in this Section.

(b) Coal processing waste banks shall have a minimum static factor of safety of 1.5.

(c) Compaction requirements during construction or modification of all coal processing waste banks shall meet the requirements of this paragraph, instead of those specified in Section 817.72(c). The coal processing waste shall be --

(1) Spread in layers no more than 24 inches in thickness; and

(2) Compacted to attain 90 percent of the maximum dry density in order to prevent spontaneous combustion and to provide the strength required for stability of the coal processing waste bank. Dry densities shall be determined in accordance with the American Association of State Highway and Transportation Officials (AASHTO) Specification T-99 (Twelfth Edition) (July 1978) or an equivalent method. AASHTO T-99 is hereby incorporated by reference as it exists on the date of adoption of this Part. Notices of changes made to this publication will be periodically published by OSM in the Federal Register. AASHTO T-99 is on file and available for inspection at the OSM Central Office, U.S. Department of the Interior, South Interior Building, Washington, D.C. 20240, at each OSM Regional Office, District Office, and Field Office, and at the central office of the applicable State Regulatory Authority, if any. Copies of this publication may also be obtained by written request to the above locations. Incorporation by reference provisions approved by the Director of the Federal Register (date).

(3) Variations may be allowed in these requirements for the disposal of dewatered fine coal waste (minus 28 sieve size) with approval of the regulatory authority.

(d) Following grading of the coal processing waste bank, the site shall be covered with a minimum of 4 feet of the best available non-toxic and non-combustible material, in accordance with 30 CFR 817.22(e), and in a manner that does not impede flow from sub-drainage systems. The coal processing waste bank shall be revegetated in accordance with 816.111--816.117. The regulatory authority may allow less than 4 feet of cover material based on physical and chemical analyses which show that the requirements of Section 816.111-816.117 will be met.

§817.86
Coal processing waste: Burning.

(a) Coal processing waste fires shall be extinguished by the person who conducts the underground mining activities, in accordance with a plan approved by the regulatory authority and the Mine Safety and Health Administration. The plan shall contain, as a minimum, provisions to insure that only those persons authorized by the operator, and who have an understanding of the procedure to be used, shall be involved in the extinguishing operations.

§817.87
Coal processing waste: Burned waste utilization.

(a) Before any burned coal processing waste or other materials or refuse is removed from a disposal area, approval shall be obtained from the regulatory authority. A plan for the method of removal, with maps and appropriate drawings to illustrate the proposed sequence of the operation and methods of compliance with this Part, shall be submitted to the regulatory authority. Consideration shall be given in the plan to potential hazards which may be created by removal to persons working or living in the vicinity of the structure. The plan shall be certified by a qualified engineer.

§817.88
Coal processing waste: Return to underground workings.

Coal processing waste may be returned to underground mine workings only in accordance with the waste disposal program approved by the regulatory authority and MSHA under 30 CFR 780.35.

§817.89
Disposal of noncoal wastes.

(a) Noncoal wastes including, but not limited to, grease, lubricants, paints, flammable liquids, garbage, abandoned mining machinery, timber and other combustibles, generated during underground mining activities shall be placed and stored in a controlled manner in a designated portion of the permit area placement and storage shall ensure that leachate and surface runoff do not degrade surface or ground water, fires are prevented, and that the area remains stable and suitable for reclamation and revegetation compatible with the natural surroundings.

(b) Final disposal of noncoal wastes shall be in a designated disposal site in the permit area. Disposal sites shall be designed and constructed with appropriate barriers on the bottom and sides of the designated site. Wastes shall be routinely compacted and covered to prevent combustion and wind-born waste. When disposal is completed, a minimum of 2 feet of soil cover shall be placed over the site, slopes stabilized, and revegetation accomplished in accordance with 30 CFR 817.111-817.117. Operation of the disposal site shall be conducted in accordance with all local, State, and Federal requirements.

(c) At no time shall any solid waste material be deposited at refuse embankments or impoundment sites, nor shall any solid waste disposal excavation be placed within 8 feet of any coal outcrop or coal storage area.

§817.91
Coal processing waste: Dams and embankments: General requireme

(a) Sections 817.91-817.93 apply to dams and embankments, constructed of coal processing waste or intended to impound coal processing waste, whether they were completed before adoption of the regulatory program or are intended to be completed thereafter.

(b) Waste shall not be used in the construction of dams and embankments unless it has been demonstrated to the regulatory authority that the stability of such a structure conforms with the requirements of 30 CFR 817.93(a). It shall also be demonstrated that the use of waste material shall not have a detrimental effect on downstream water quality or the environment due to acid seepage through the dam or impoundment. All demonstrations shall be submitted to and approved by the regulatory authority.

§817.92
Coal processing waste: Dams and embankments: Site preparation.

Before coal processing waste is placed at a dam or embankment site-

(a) All trees, shrubs, grasses, and other organic material shall be cleared and grubbed from the site, and all combustibles shall be removed and stockpiled in accordance with the requirements of this Part; and

(b) Surface drainage that may cause erosion to the embankment area or the embankment features, whether during construction or after completion, shall be diverted away from the embankment by diversion ditches that comply with the requirements of 30 CFR 817.43. Adequate outlets for discharge from these diversions shall be in accordance with 30 CFR 817.47. Diversions that are designed to divert drainage from the upstream area away from the impoundment area shall be designed to carry the peak runoff from a 100-year, 24-hour precipitation event. The diversion shall be maintained to prevent blockage, and the discharges shall be in accordance with 30 CFR 817.47. Sediment control measures shall be provided at the discharge of each diversion ditch before entry into natural watercourses in accordance with 30 CFR 817.41-817.46.

§817.93
Coal processing waste: Dams and embankments: Design and construction.

(a) The design of each dam and embankment constructed of coal processing waste or intended to impound such waste shall comply with the requirements of 30 CFR 817.49(a)(5), (e), (f), (g), (h) and (i) modified as follows.

(1) The design freeboard between the lowest point on the embankment crest and the maximum water elevation shall be at least 3 feet. The maximum water elevation shall be that determined by the freeboard hydrograph criteria contained in the U.S. Soil Conservation Service criteria referenced in 30 CFR 817.49.

(2) The dam and embankment shall have a minimum safety factor of 1.5 for the partial pool with steady seepage saturation conditions, and the seismic safety factor shall be at least 1.2.

(3) The dam or embankment foundation and abutments shall be designed to be stable under all conditions of construction and operation of the impoundment. Sufficient foundation investigations and laboratory testing shall be performed to determine the safety factors of the dam or embankment for all loading conditions appearing in paragraph (a)(2) of this Section or the publications referred to in 30 CFR 817.49, and for all increments of construction.

(b) Spillways and outlet works shall be designed to provide adequate protection against erosion and corrosion. Inlets shall be protected against blockage.

(c) Dams or embankments constructed for impounding waste materials shall be designed so that at least 90 percent of the water stored during the design precipitation event shall be removed within a 10-day period.

§817.95
Air resources protection.

(a) Fugitive dust. Each person who conducts underground mining activities shall plan and employ fugitive dust control measures as an integral part of site preparation, coal mining, and reclamation operations. The regulatory authority shall approve the control measures appropriate for use in planning, according to applicable Federal and State air quality standards, climate, existing air quality in the area affected by mining, and the available control technology.

(b) Control measures. The fugitive dust control measures to be used, depending on applicable Federal and State air quality standards, climate, existing air quality, size of the operation, and type of operation, shall include, as necessary, but not be limited, to--

(1) Periodic watering of unpaved roads, with the minimum frequency of watering the regulatory authority;

(2) Chemical stabilization of unpaved roads with proper application of non-toxic soil cements or dust palliatives;

(3) Paving of roads;

(4) Prompt removal of coal, rock, soil, and other dust-forming debris from roads and frequent scraping and compaction of unpaved roads to stabilize the road surface;

(5) Restricting the speed of vehicles to reduce fugitive dust caused by travel;

(6) Revegetating, mulching, or otherwise stabilizing all areas adjoining roads that are sources of fugitive dust;

(7) Restricting the travel of unauthorized vehicles on other than established roads;

(8) Enclosing, covering, watering, or otherwise treating loaded haul trucks and railroad cars, to reduce loss of material to wind and spillage;

(9) Substituting of conveyor systems for haul trucks and covering of conveyor systems when conveyed loads are subjected to wind erosion;

(10) Minimizing the area of disturbed land;

(11) Prompt revegetation of regraded lands;

(12) Use of alternatives for coal-handling methods, restriction of dumping procedures, wetting of disturbed materials during handling, and compaction of disturbed areas;

(13) Planting of special windbreak vegetation at critical points in the permit area.

(14) Control of dust from drilling, using water sprays, hoods, dust collectors, or other controls;

(15) Restricting the areas to be blasted at any one time to reduce fugitive dust;

(16) Restricting activities causing fugitive dust during periods of air stagnation;

(17) Extinguishing any areas of burning or smoldering coal and periodically inspecting for burning areas whenever the potential for spontaneous combustion is high;

(18) Reducing the period of time between initially disturbing the soil and revegetating or other surface stabilization; and

(19) Restricting fugitive dust at spoil and coal transfer and loading points with water sprays, negative pressure systems and baghouse filters, chemicals, or other practices.

(c) Additional measures. Where the regulatory authority determines the application of fugitive dust control measures listed in paragraph (b) of this Section is inadequate, the regulatory authority may require additional measures and practices as necessary.

(d) Monitoring. Air monitoring equipment shall be installed and monitoring shall be conducted in accordance with the air quality monitoring plan required under 30 CFR 783 and approved by the regulatory authority.

817.97

Protection of fish, wildlife, and related environmental values

(a) Any person conducting underground mining activities shall, to the extent possible using the best technology currently available, minimize disturbances and adverse impacts of the activities on fish, wildlife and related environmental values, and achieve enhancement of such resources where practicable.

(b) A person who conducts underground mining activities shall promptly report to the regulatory authority the presence in the permit area of any critical habitat of a threatened or endangered species listed by the Secretary, any plant or animal listed as threatened or endangered by the State, or any bald or golden eagle, of which that person becomes aware and which was not previously reported to the regulatory authority by that person.

(c) Electric power lines, and other transmission facilities used for or incidental to the surface mining activities on the permit area shall be designed and constructed in accordance with the guidelines set forth in "Environmental Criteria for Electric Transmission System" (USDI, USDA (1970)), or in alternative guidance manuals approved by the regulatory authority. Distribution lines shall be designed and constructed in accordance with REA Bulletin 61-10 "Powerline Contacts by Eagles and Other Large Birds" or in alternative guidance manuals approved by the regulatory authority. The two works listed in this paragraph are hereby incorporated by reference. These materials are incorporated as they exist on the date of adoption of this Part, and notices of changes in these materials will periodically be published in the Federal Register. These two works are available at all OSM Regional Offices and at the OSM Office, Department of the Interior, 18th and C Sts., N.W., in Washington, D.C. 20240.

(d) Each person who conducts underground mining activities shall to the extent possible using the best technology currently available--

(1) Locate and operate haul and access roads so as to avoid or minimize impacts to important fish and wildlife species or other species protected by State or Federal law;

(2) Fence roadways where specified by the regulatory authority to guide locally important wildlife to roadway underpasses or overpasses and construct the necessary passages. No new barrier shall be located in known and important wildlife migration routes.

(3) Fence, cover, or use other appropriate methods to exclude wildlife from ponds which contain hazardous concentrations of toxic-forming materials;

(4) Restore, enhance where practicable, or avoid disturbances to habitats of unusually high value for fish and wildlife;

(5) Restore, enhance where practicable, or maintain natural riparian vegetation on the banks of streams, lakes, and other wetland areas;

(6) Afford protection to aquatic communities by avoiding stream channels as required in Sections 817.57 and 817.126 or restoring stream channels as required in Section 817.44.

(7) Not use persistent pesticides on the area during underground mining and reclamation activities unless approved by the regulatory authority;

(8) To the extent possible prevent, control, and suppress range forest and coal fires which are not approved by the regulatory authority as part of a management plan.

(9) If fish and wildlife habitat is to be a primary or secondary post mining land use, the operator shall, in addition to the requirements of 30 CFR 816.111-816.117--

(i) Select plant species to be used on reclaimed areas, based on the following criteria--

(A) Their proven nutritional value for fish and wildlife;

(B) Their uses as cover for fish and wildlife; and

(C) Their ability to support and enhance fish and wildlife habitat after release of bonds; and

(ii) Distribute plant groupings to maximize benefit to fish and wildlife. Plants should be grouped and distributed in a manner which optimizes edge effect, cover, and other benefits for fish and wildlife;

(10) Where cropland is to be the alternative postmining land use on lands diverted from a fish and wildlife premining land use, and where appropriate for wildlife and crop management practices, intersperse the fields with trees, hedges of fence rows throughout the harvested area to break up large blocks of monoculture and to diversify habitat types for birds and other animals; and

(11) Where the primary land use is to be residential, public service, or industrial land use, intersperse reclaimed lands with greenbelts, utilizing species of grass, shrubs and trees useful as food and cover for birds and small animals.

§817.99
Slides and other damage.

At any time a slide occurs which may have a potential adverse effect on public, property, health, safety, or the environment, the person who conducts the underground mining activities shall notify the regulatory authority by the fastest available means and comply with any remedial measures required by the regulatory authority.

§817.100
Contemporaneous reclamation.

Reclamation efforts, including, but not limited to, backfilling, grading, topsoil replacement and revegetation, of all areas affected by surface operations shall occur as contemporaneously as practicable with mining operations.

§817.101
Backfilling and grading: General requirements.

(a) Surface areas disturbed incident to underground mining activities shall be backfilled and graded in accordance with the time schedule approved by the regulatory authority as a condition of the permit.

(b) Backfilling and grading. (1) All areas affected by surface operations shall be returned to approximate original contour. All spoil shall be transported, backfilled, and compacted (where advisable to ensure stability or to prevent leaching) and graded to eliminate all highwalls, spoil piles, and depressions.

(2) Backfilled material shall be placed to minimize adverse effects on ground water, minimize off-site effects, and support the approved post mining land use.

(3) The post mining graded slopes need not be uniform.

(4) Cut-and-fill terraces may be used only in those situations expressly identified in Section 817.102.

§817.102
Backfilling and grading: General grading requirements.

(a) The final graded slopes shall not exceed in grade either the approximate pre mining slopes, or any lesser slopes approved by the regulatory authority based on consideration of soil, climate, or other characteristics of the surrounding area. Post-mining final graded slopes need not be uniform but shall approximate the general nature of the pre mining topography. The requirements of this Section may be modified by the regulatory authority where the underground mining activities are reaffecting previously mined lands that have not been restored to the standards of this Part and sufficient spoil is not available to otherwise comply with this Section. The person who conducts underground mining activities shall, at a minimum--

(1) Retain all overburden and spoil on the solid portion of existing or new benches; and

(2) Backfill and grade to the most moderate slope possible, to eliminate the highwall which does not exceed either the angle of repose or such lesser slope as is necessary to achieve a minimum static safety factor of 1.3. In all cases the highwall shall be eliminated.

(b) On approval by the regulatory authority and in order to conserve soil moisture, ensure stability, and control erosion on final graded slopes, cut-and-fill terraces may be allowed, if the terraces are compatible with the approved post mining land use and are appropriate substitutes for construction of lower grades on the reclaimed lands. The terraces shall meet the following requirements:

(1) The width of the individual terrace bench shall not exceed 20 feet, unless specifically approved by the regulatory authority, as necessary for stability, erosion control, or roads included in the approved post mining land use plan.

(2) The vertical distance between terraces shall be as specified by the regulatory authority, to prevent excessive erosion and to provide long-term stability.

(3) The slope of the terrace outslope shall not exceed 1 v :2 h (50 percent). Outslopes which exceed 1 v :2 h (50 percent) may be approved, if they have a minimum static safety factor of more than 1.3 provide adequate control over erosion, and closely resemble the surface configuration of the land prior to mining. In no case may highwalls be left as part of terraces.

(4) Culverts and underground rock drains shall be used on the terrace only when approved by the regulatory authority.

(c) Small depressions may be constructed, if they--

(1) Are approved by the regulatory authority to minimize erosion, conserve soil moisture or promote vegetation;

(2) Do not restrict normal access; and

(3) Are not inappropriate substitutes for lower grades on the reclaimed lands.

(d) All underground mining activities on slopes above 20 degrees, or on lesser slopes that the regulatory authority defines as steep slope, shall meet the provisions of 30 CFR Part 826.

(e) All final grading, preparation of overburden before replacement of topsoil, and placement of topsoil shall be done along the contour to minimize subsequent erosion and instability. If such grading, preparation or placement along the contour is hazardous to equipment operators, then grading, preparation or placement in a direction other than generally parallel to the contour may be used. In all cases, grading, preparation, or placement shall be conducted in a manner which minimizes erosion and provides a surface for replacement of topsoil which will minimize slippage.

§817.103
Backfilling and grading: Covering coal and acid- and toxic-forming materials.

(a) Cover. (1) A person who conducts underground mining activities shall cover, with a minimum of 4 feet of the best available non-toxic and non-combustible material, all exposed coal seams remaining after mining, i.e. acid-forming materials, toxic-forming materials, combustible materials, or any other materials identified by the regulatory authority as exposed, used, or produced during mining.

(2) If necessary, these materials shall be treated to neutralize toxicity, in order to prevent water pollution and sustained combustion and minimize adverse effects on plant growth and land uses.

(3) Where necessary to protect against upward migration of salts, exposure by erosion, to provide an adequate depth for plant growth, or to otherwise meet local conditions, the

regulatory authority shall specify thicker amounts of cover using non-toxic material.

(4) Acid-forming or toxic-forming material shall not be buried or stored in proximity to a drainage course so as to cause or pose a threat of water pollution.

(b) Stabilization. Backfilled materials shall be selectively hauled or conveyed, and compacted, wherever necessary to prevent leaching of acid-forming and toxic-forming materials into surface or ground waters and wherever necessary to ensure the stability of backfilled materials. The method and design specifications of compacting material shall be approved by the regulatory authority before acid-forming and toxic-forming materials are covered.

§817.106
Regrading or stabilizing rills and gullies.

When rills or gullies deeper than 9 inches form in areas that have been regraded and topsoiled, the rills and gullies shall be filled, graded, or otherwise stabilized and the area reseeded or replanted according to Sections 817.111-817.117. The regulatory authority shall specify that rills or gullies of lesser size be stabilized, and the area reseeded or replanted if the rills or gullies are disruptive to the approved post mining land use or may result in additional erosion and sedimentation.

§817.111
Revegetation: General requirements.

(a) Each person who conducts underground mining activities shall establish on all areas disturbed by surface operations and facilities diverse and permanent vegetative cover. For areas designated as prime farmland, the requirements of 30 CFR 823 shall apply.

(b) All revegetation shall be in compliance with the plan submitted under 30 CFR 784.12(e) and 784.14, as approved by the regulatory authority in the permit, and carried out in a manner that encourages a prompt vegetative cover and recovery of productivity levels compatible with the approved post mining land use.

(1) All disturbed lands, except water areas and surface areas of roads that are approved as a part of the post mining land use, shall be seeded or planted to achieve a permanent vegetative cover on the disturbed area in accordance with Section 817.100.

(2) The vegetative cover shall be capable of self-regeneration and plant succession.

(3) Vegetative cover shall be at least equal in extent of cover to the natural vegetation of the area.

(4) If both the pre mining and the post mining land uses are cropland, planting of the crops normally grown will meet the requirements of paragraph (b)(1) of this Section.

§817.112

Revegetation: Use of introduced species.

Introduced species may be used if approved by the regulatory authority under the following conditions:

(a) After appropriate field trails have demonstrated that the introduced species can establish a diverse, effective, and permanent cover capable of achieving the approved postmining land use; or

(b) the species are necessary to achieve a quick, temporary, and stabilizing cover that aids in controlling erosion; and measures to establish permanent vegetation are included in the approved plan;

(c) the species are compatible with the plant and animal species of the region; and

(d) the species meet the requirements of applicable State and Federal seed or introduced species statutes, and are not poisonous or noxious.

§817.113
Revegetation: Timing.

Seeding and planting of disturbed areas shall be conducted during the first normal period for favorable planting conditions after final preparation. The normal period for favorable planting shall be that planting time generally accepted locally for the type of plant materials selected. When necessary to effectively control erosion, any disturbed area shall be seeded, as contemporaneously as practicable, with a temporary cover of small grains, grasses, or legumes until a permanent cover is established.

§817.114
Revegetation: Mulching and other soil stablizing practices.

(a) Suitable mulch or other soil stabilizing practices shall be used on all regraded and topsoiled areas to control erosion, to promote germination of seeds, or to increase the moisture retention of the soil. The regulatory authority may, on a case-by-case basis, suspend the requirement for mulch if the permittee can demonstrate that alternative procedures will achieve the requirements of 817.116 and do not cause or contribute to air or water pollution.

(b) Mulches shall be mechanically or chemically anchored to the soil surface to assure effective protection of the soil and vegetation when required by the regulatory authority.

(c) Annual grasses and grains may be used alone, as in situ mulch, or in conjunction with another mulch when the regulatory authority determines they will provide adequate soil erosion control and will later be replaced by perennial species approved for the postmining land use.

(d) Chemical soil stabilizers alone or in combination with appropriate mulches may be used in conjunction with vegetative covers approved for the post mining land use.

§817.115
Revegetation: Grazing.

When the approved post mining land use is rangeland or pastureland, the reclaimed land shall be used for livestock grazing at a grazing capacity approved by the regulatory authority approximately equal to that for similar non-mined lands, for at least the last two full years of liability required under Section 817.116(b).

§817.116
Revegetation: Standards for success.

(a) Success of revegetation shall be measured by techniques approved by the regulatory authority after consultation with appropriate State and Federal agencies. Comparison of ground cover and productivity may be made on the basis of reference areas or through the use of technical guidance procedures published by USDA or USDI for assessing ground cover and productivity. Management of the reference area, if applicable, shall be comparable to that which is required for the approved post mining land use of the mine plan area.

(b) (1) The ground cover and productivity of living plants on the revegetated area shall be equal to the ground cover and productivity of living plants on the approved reference area or to the standards in other technical guides approved by the Director for use in the regulatory program. The period of extended responsibility under the performance land requirements of Subchapter J initiates when ground cover equals the approved standard after the last year of augmented seeding, fertilizing, irrigation or other work which ensures success in -

(i) Areas of more than 26.0 inches average annual precipitation; and continues for not less than five years. Ground cover and productivity shall equal the approved standard for the last two consecutive years of the responsibility period; or

(ii) Areas of less than or equal to 26.0 inches average annual precipitation; and continues for not less than ten years. Ground cover and productivity shall equal the approved standard for the last two consecutive years of the responsibility period.

(2) For purposes of paragraphs (b)(1) of this section, the average annual precipitation can be determined either--

(i) By interpolation, using standard techniques, from "Mean Annual Precipitations," Map, p. 97, The National Atlas of the United States, U.S. Department of the Interior, Geological Survey, 1970; or from "Climatic Atlas of the United States," U.S. Dept. of Commerce, National Oceanic and Atmospheric Administration, 1974; or from long-term precipitation averages from "Climatological Data," U.S. Dept. of Commerce, National Oceanic and Atmospheric Administration; or from official records; or

(ii) Based on 10 years of continuous and reliable precipitation records from stations located in or adjacent to the mine plan area.

(3) The ground cover and productivity of the revegetated area shall be considered equal, if they are at least 90 percent of the ground cover or productivity of the reference area or other approved technical guidance procedures with 90 percent statistical confidence, or with 80 percent statistical confidence on shrublands. Exceptions may be authorized by the regulatory authority under the following standards:

(i) For previously mined areas that were not reclaimed, to the requirements of this Subchapter, as a minimum the ground cover of living plants shall not be less than can be supported by the best available topsoil or other suitable material in the reaffected area, shall not be less than the ground cover existing before redisturbance and shall be adequate to control erosion;

(ii) For areas to be developed for industrial or residential use less than 2 years after regrading is completed, the ground cover of living plants shall not be less than required to control erosion; and

(iii) For areas to be used for cropland, success in revegetation of cropland shall be determined on the basis of crop production from the mined area as compared to the approved reference areas or other technical guidance procedures. Crop production from the mined area shall be equal to or greater than that of the approved standard for the last two consecutive growing seasons of the 5 or 10 year liability period established in (b)(1) of this section. The applicable 5 or 10 year period of responsibility for revegetation shall commence at the date of initial planting of the crop being grown. Production shall not be considered equal if it is less than 90 percent of the production of the approved standard with 90 percent statistical confidence.

(iv) On areas to be developed for fish and wildlife management or forestland, successful vegetation shall be determined on the basis of tree, shrub or half-shrub stocking and ground cover. The tree, shrub or half-shrub, stocking shall meet the standards described in section 817.117. The area seeded to a ground cover shall be considered acceptable if it is at least 70 percent of the ground cover of the reference areas with 90 percent statistical confidence or if the ground cover is determined to be adequate to control erosion by the regulatory authority. Section 816.116(b) shall determine the responsibility period and the frequency of ground cover measurement.

(c) The person who conducts underground mining activities shall:

(1) Maintain any necessary fences and proper management practices; and

(2) Conduct periodic measurements of vegetation, soils, and water prescribed or approved by the regulatory authority, to identify conditions during the applicable period of liability specified in paragraph (b) of this Section.
817.117

Revegetation: Tree and shrub stocking for forest land.

This section sets forth forest resource conservation standards for reforestation operations to ensure that a cover of commercial tree species, non-commercial tree species, shrubs or half shrubs, sufficient for adequate use of available growing space, is established after underground mining activities.

(a) Stocking, i.e. the number of stems per unit area, will be used to determine the degree to which space is occupied by well distributed countable trees, shrubs or half shrubs.

(1) Root crown or root sprouts over 1 foot in height shall count as one toward meeting the stocking requirements. Where multiple stems occur only the tallest stem will be counted.

(2) A countable tree or shrub means a tree that can be used in calculating the degree of stocking under the following criteria:

(i) the tree or shrub shall be in place at least 2 growing seasons,

(ii) the tree or shrub shall be alive and healthy, and

(iii) the tree or shrub shall have at least one third of its length in live crown.

(3) Rock areas, permanent road and surface water drainage ways on the revegetated area shall not require stocking.

(b) The following are the minimum performance standards for areas where commercial forest land is the approved postmining land use:

(1) the area shall have a minimum stocking of 450 trees or shrubs per acre.

(2) a minimum of 75 percent of countable trees or shrubs shall be commercial trees species,

(3) the number of trees or shrubs and the ground cover shall be determined using procedures described in Section 816.116 (b)(3)(iv) and 816.117(b) and the sampling method approved by the regulatory authority; when the stocking is equal to or greater than 450 trees or shrubs per acre and there is acceptable groundcover, the 5 or 10 year responsibility period required in Section 816.116(b) shall begin.

(4) Upon expiration of the 5 or 10 year responsibility period and at the time of request for bond release each permittee shall provide documentation showing that the stocking of trees and shrubs and the groundcover on the revegetated area satisfy Sections 817.116(b)(3)(iv) and 817.117(c)(i).

(c) The following are the minimum performance standards for areas where woody plants are used for wildlife management, recreation, shelter belts, or forest uses other than commercial forest land:

(1) An inventory of trees, half-shrubs and shrubs shall be conducted on established reference areas according to methods approved by the regulatory authority. This inventory shall contain but not be limited to--

(a) site quality,
(b) stand size,
(c) stand condition,
(d) site and species relations, and
(e) appropriate forest land utilization considerations;

(2) The stocking of trees, shrubs, half-shrubs and the ground cover established on the revegetated area shall approximate the stocking and ground cover on the reference area and shall utilize local and regional recommendations regarding species composition, spacing and planting arrangement. The stocking of live woody plants shall be equal to or greater than 90 percent of the stocking of wood plants of the same life form on the reference area. When this requirement is met and acceptable ground cover is achieved, the 5 or 10 year responsibility period required in Section 817.116(b) shall begin.

(3) Upon expiration of the 5 or 10 year responsibility period and at the time of request for bond release each permittee shall provide documentation showing that (i) the woody plants established on the revegetated site are equal to or greater than 90 percent of the stocking of live woody plants of the same life form of the approved reference areas with 80 percent statistical confidence and (ii) the groundcover on the revegetated area satisfies Section 816.116(b)(3)(iv). Species diversity, seasonal variety and regenerative capacity of the vegetation of the revegetated area shall be evaluated on the basis of the results which could reasonably be expected using the revegetation methods described in the mining and reclamation plan.

817.116
Sussidence control: General requirements.

(a) Underground mining activities shall be planned and conducted so as to prevent subsidence from causing material damage to the surface, to the extent technologically and economically feasible, and so as to maintain the value and reasonably foreseeable use of surface lands. This may be accomplished by leaving adequate coal in place, backfilling, or other measures to support the surface, or by conducting underground mining in a manner that provides for planned and controlled subsidence. Nothing in this Chapter shall be construed to prohibit the standard method of room and pillar mining.

(b) The person engaged in underground mining activities shall comply with all provisions of the subsidence control plan prepared pursuant to 30 CFR 784.19 and approved by the regulatory authority.

817.122
Subsidence control: Public notice.

The mining schedule shall be distributed by mail to all owners of property and residents within the area above the underground workings and adjacent areas. Each such person shall be notified by mail at least six months prior to mining beneath his or her property or residence. The notification shall contain, as a minimum:

(a) Identification of specific areas in which mining will take place;

(b) Dates of mining activities that could cause subsidence and affect specific structures; and

(c) Measures to be taken to prevent or control adverse surface effects.

817.124
Subsidence control: Surface owner protection.

(a) Each person who conducts underground mining activities shall adopt all measures approved by the regulatory authority under 30 CFR 794.19 to reduce the likelihood of subsidence, to prevent subsidence causing material damage or reducing the value or reasonably forseeable use of surface lands, and to mitigate the effects of any such damage or reduction which may occur.

(b) Each person who conducts underground mining which results in subsidence that causes material damage or reduces the value or reasonably forseeable use of the surface lands shall, with respect to each surface area affected by subsidence--

(1) Restore, rehabilitate, or remove and replace each damaged structure, feature or value, promptly after the damage is suffered, to the condition it would be in if no subsidence had occurred and restore the land to a condition capable of supporting reasonably forseeable uses it was capable of supporting before subsidence;

(2) Purchase the damaged structure or feature for its fair market, pre-subsidence value and shall promptly after subsidence occurs, to the extent technologically and economically feasible, restore the land surface to a condition capable and appropriate of supporting the purchased structure, and other forseeable uses it was capable of supporting before mining. Nothing in this paragraph shall be deemed to grant or authorize an exercise of the power of condemnation or the right of eminent domain by any person engaged in underground mining activities; or

(c) Each person who conducts underground mining activities will compensate the owner of any surface structure in the full amount of the diminution in value resulting from subsidence, by purchase prior to mining of a noncancellable, premium prepaid insurance policy or other means approved by the regulatory authority as assuring before mining begins that payment will occur; indemnify every person with an interest in the surface for all damages suffered as a result of the subsidence; and, to the extent technologically and economically feasible, fully restore the land to a condition capable of maintaining reasonably forseeable uses which it could support before subsidence.

817.126
Subsidence control: Buffer zones.

(a) Underground mining activities shall not be conducted beneath or adjacent to any perennial stream, or impoundment having a storage volume of 20 acre-feet or more, unless the regulatory authority, on the basis of detailed subsurface information, determines that subsidence will not cause material damage to streams, water bodies and associated structures. If subsidence causes material damage, then measures will be taken to the extent technologically and economically feasible to correct the damage and to prevent additional subsidence from occurring.

(b) Underground mining activities beneath any aquifer that serves as a significant source of water supply to any public water system shall be conducted so as to avoid disruption of the aquifer and consequent exchange of ground water between the aquifer and other strata. The regulatory authority may prohibit mining in the vicinity of the aquifer or may limit the percentage of coal extraction to protect the aquifer and water supply.

(c) Underground mining activities shall not be conducted beneath or in close proximity to any public buildings, including but not limited to churches, schools, hospitals, courthouses and government offices, unless the regulatory authority, on the basis of detailed subsurface information, determines that subsidence from those activities will not cause material damage to these structures and specifically authorizes the mining activities.

(d) The regulatory authority shall suspend underground coal mining under urbanized areas, cities, towns, and communities, and adjacent to industrial or commercial buildings, major impoundments or permanent streams, if imminent danger is found to inhabitants of the urbanized areas, cities, towns, or communities.

817.131
Cessation of operations: Temporary.

(a) Each person who conducts underground mining activities shall effectively support and maintain all surface access openings to underground operations, and secure surface facilities in areas in which there are no current operations, but operations are to be resumed under an approved permit. Temporary abandonment shall not relieve a person of his or her obligation to comply with any provisions of the approved permit.

(b) Before temporary cessation of mining and reclamation operations, for a period of thirty days or more, or as soon as it is known that a temporary cessation will extend beyond 30 days, each person who conducts underground mining activities shall submit to the regulatory authority a notice of intention to cease or abandon operations. This notice shall include a statement of the exact number of surface acres and the horizontal and vertical extent of sub-surface strata which have been in the permit area prior to cessation or abandonment, the extent and kind of reclamation of surface area which will have been accomplished, and identification of the backfilling, regrading, revegetation, environmental monitoring, underground opening closures and water treatment activities that will continue during the temporary cessation.

817.132
Cessation of operations: Permanent.

(a) The person who conducts underground mining activities shall close or backfill or otherwise permanently reclaim all affected areas, in accordance with this Chapter and according to the permit approved by the regulatory authority.

(b) All surface equipment, structures, or other facilities not required for continued underground mining activities and monitoring, unless approved as suitable for the postmining land use, or environmental monitoring shall be removed and the affected lands reclaimed.

817.133
Postmining land use.

(a) General. Surface land areas affected by mining activities shall be restored in a timely manner--

(1) To conditions that are capable of supporting the use which they were capable of supporting before any mining;

(2) To higher or better uses achievable under criteria and procedures of this Section.

(b) Determining pre-mining use of land. The premining uses of land to which the postmining land use is compared shall be those uses which the land previously supported, if the land had not been previously mined.

(1) The postmining land use for land that has been previously mined and not reclaimed shall be judged on the basis of the highest and best use that can be achieved and is compatible with surrounding areas.

(2) The postmining land use for land that has received improper management shall be judged on the basis of the premining use of surrounding lands that have received proper management.

(3) If the premining use of the land was changed within 5 years of the beginning of mining, the comparison of postmining use to premining use shall include a comparison with the historic use of the land as well as its use immediately preceding mining.

(c) Prior to the release of lands from the permit area in accordance with 30 CFR 807.12(c) the permit area shall be restored, in a timely manner, either to conditions capable of supporting the uses they were capable of supporting before any mining or to conditions capable of supporting approved alternative land uses. Alternative land uses may be approved by the regulatory authority after consultation with the landowner or the land management agency having jurisdiction over the lands, if the following criteria are met:

(1) The proposed postmining land use is compatible with adjacent land use and, where applicable, with existing local, State, or Federal land use policies and plans; a written statement of the views of the authorities with statutory responsibilities for land use policies and plans shall have been submitted to the regulatory authority within 60 days of notice by the regulatory authority before underground mining activities begin. Any required approval of local, State, or Federal land management agencies, including any necessary zoning or other changes required for the land use, shall have been obtained and shall remain valid throughout the underground mining activities.

(2) Specific plans shall be prepared and submitted to the regulatory authority which show the feasibility of the postmining land use as related to projected land use trends and markets and that include a schedule showing how the proposed use will be developed and achieved within a reasonable time after mining and be sustained. The regulatory authority may require appropriate demonstrations to show that the planned procedures are feasible, reasonable, and integrated with mining and reclamation, and that the plans will result in successful reclamation.

(3) Provision of any necessary public facilities shall be ensured as evidenced by letters of commitment from parties other than the person who conducts underground mining activities, as appropriate, to provide them in a manner compatible with the plans submitted under 30 CFR 784.14. The letters shall be submitted to the regulatory authority before surface mining activities begin.

(4) Specific and feasible plans are submitted to the regulatory authority which show that financing and attainment and maintenance of the postmining land use are feasible and, if appropriate, are supported by letters of commitment from parties other than the person who conducts the underground mining activities.

(5) Plans for the postmining land use shall have been designed under the general supervision of a registered professional engineer, or other appropriate professional, who will ensure that the plans conform to applicable accepted standards for adequate land stability, drainage, vegetative cover, and esthetic design appropriate for the postmining use of the site.

(6) The proposed use or uses will neither present actual or probable hazard to public health or safety nor will they pose any actual or probable threat of water flow diminution or pollution.

(7) The use or uses will not involve unreasonable delays in reclamation.

(8) Necessary approval of measures to prevent or mitigate adverse effects on fish, wildlife and related environmental values shall have been obtained from the regulatory authority and appropriate State and Federal fish and wildlife management agencies have been provided a 60-day period in which to review the plan before surface mining activities begin.

(9) Proposals to change premining land uses of range, fish and wildlife habitat, forest land, hayland, or pasture to a postmining cropland use, where the cropland would require continuous maintenance such as seeding, plowing, cultivation, fertilization, or other similar practices to be practicable or to comply with applicable Federal, State, and local laws, have been reviewed by the regulatory authority to ensure that--

(i) There is a firm written commitment by the person who conducts underground mining activities or by the landowner or land manager to provide sufficient crop management after release of applicable performance bonds under Subchapter J and Sections 816.111816.117, to assure that the proposed postmining cropland use remains practical and reasonable;

(ii) There is sufficient water available and committed to maintain crop production; and

(iii) Topsoil quality and depth are sufficient to support the proposed use.

817.150
Roads: Class I: General.

(a) Each person who conducts underground mining activities shall design, construct or reconstruct, utilize, and maintain Class I Roads and restore the area to meet the requirements of 30 CFR 816.151-816.156 and to control or minimize erosion and siltation, air and water pollution, and damage to public or private property.

(b) To the extent possible using the best technology currently available, Class I Roads shall not cause damage to fish, wildlife, and related environmental values and shall not cause additional contributions of suspended solids to streamflow or to runoff outside the permit area. Any such contributions shall not be in excess of limitations of State or Federal laws.

(c) All Class I Roads shall be removed and the land affected regraded and revegetated in accordance with the requirements of 30 CFR 817.156 unless--

(1) Retention of the road is approved as part of the approved postmining land use or as being necessary to control erosion adequately;

(2) The necessary maintenance is assured; and

(3) All drainage is controlled according to 30 CFR 817.153.

(d) (1) The design and construction or reconstruction or reconstruction of Class I Roads shall be certified by a registered qualified professional engineer in accordance with 30 CFR 817.151-817.154, except to the extent that alternative specifications are used. Alternative specifications may be used only after approval by the regulatory authority upon a demonstration by a registered qualified professional engineer that they will result in performance equal to or better than that resulting from Class I Roads complying with 30 CFR 817.151-817.156.

(2) The design shall incorporate the demand for mobility and travel efficiency, based on geometric criteria, both horizontal and vertical, appropriate for the anticipated volume of traffic and weight and speed of vehicles to be used.

817.151
Roads: Class I: Location.

(a) Class I Roads shall be located, insofar as possible, on ridges or on the most stable available slopes to minimize erosion.

(b) No part of any Class I Road shall be located in the channel of an intermittent or perennial stream unless specifically approved by the regulatory authority.

Section, (c) Stream fords are prohibited unless they are specifically approved by the regulatory authority as temporary routes during periods of construction. The fords shall not adversely affect stream sedimentation or fish, wildlife, and related environmental values. All other stream crossings shall be made using bridges, culverts, or other structures designed, constructed, and maintained to meet the requirements of 30 CFR 817.153.

(d) Class I Roads shall be located to minimize downstream sedimentation or flooding.

817.152
Roads: Class I: Design and construction.

Class I Roads shall be designed and constructed or reconstructed in compliance with the following standards in order to control subsequent erosion and disturbance of the hydrologic balance:

(a) Vertical alinement. Except where lesser grades are necessary to control site-specific conditions, maximum road grades shall be as follows:

(1) The overall grade shall not exceed 1v:10h (10 percent).

(2) The maximum pitch grade shall not exceed 1v:6.5h (15 percent).

(3) There shall be not more than 300 feet of pitch grade exceeding 10 percent within any consecutive 1,000 feet of Class I Roads, but in no case shall there be any pitch grade over 15 percent.

(b) Horizontal alinement. Class I Roads shall have horizontal alinement as consistent with the existing topography as possible, and shall provide the alinement required to meet the performance standards of 30 CFR 817.150-817.156. The alinement shall be determined in accordance with the anticipated volume of traffic and weight and speed of vehicles to be used. Horizontal and vertical alinement shall be coordinated to ensure that one will not adversely affect the other and to ensure that the road will not cause environmental damage.

(c) Road cuts.

(1) Cut slopes shall not be steeper than specifically authorized by the regulatory authority which shall not authorize slopes steeper than 1v:1.5h in unconsolidated materials or 1v:0.25h in rock, except that steeper slopes may be specifically authorized by the regulatory authority if geotechnical analysis demonstrates that a minimum safety factor of 1.5 can be maintained.

(2) Topsoil or other materials suitable under 30 CFR 817.22 shall be placed on all cut slopes of 1v:1.5h or flatter to aid in establishing vegetation and to minimize erosion. Topsoil depth shall be adequate to support vegetation necessary to control erosion.

(3) Temporary erosion-control measures shall be implemented during construction to minimize sedimentation and erosion until permanent control measures can be established.

(d) Road embankments. Embankment sections shall be constructed in accordance with the following provisions:

(1) All vegetative material and topsoil shall be removed from the embankment foundation during construction to increase stability, and no vegetative material or topsoil shall be placed beneath or in any Class I road embankment.

(2) Where an embankment is to be placed on side slopes exceeding 1v:5h (20 percent), the existing ground plowed, stepped, or, if in bedrock, keyed in a manner which increases the stability of the fill. The keyway shall be a minimum of 10 feet in width and shall extend a minimum of 2 feet below the toe of the fill.

(3) Material containing by volume less than 25 percent of rock larger than 6 inches in greatest dimension shall be spread in successive uniform layers not exceeding 12 inches in thickness before compaction.

(4) Where the material for an embankment consists of large-size rock, broken stone, or fragmented material that makes placing it in 12-inch layers impossible under paragraph (d)(3) of this Section, the embankment shall be constructed in uniform layers not exceeding in thickness the approximate average size of the rock used, but the layers shall not exceed 36 inches in thickness. Rock shall not be dumped in final position, but shall be distributed by blading or dozing in a manner that will ensure proper placement in the embankment, so

that voids, pockets, and bridging will be reduced to a minimum. The final layer of the embankment shall meet the requirements of paragraph (d)(3) of this Section.

(5) Each layer of the embankment shall be completed, leveled, and compacted before the succeeding layer is placed. Loads of material shall be leveled as placed and kept smooth. The successive layers shall be compacted evenly by hauling and leveling equipment over the entire width of the embankment. This procedure shall be continued until no visible horizontal movement of the embankment material is apparent.

(6) Embankment layers shall be compacted as necessary to ensure that the embankment is adequate to support the anticipated volume of traffic and weight and speed of vehicles to be used. In selecting the method to be used for placing embankment material, consideration shall be given in the design to such factors as the foundation, geological structure, soils, type of construction, and equipment to be used. A structural and foundation analysis shall be performed to establish design standards for embankment stability appropriate to the site. Publications of The American Association of State Highway and Traffic Officers (AASHTO) including AASHTO T-99, T-180, T-91, and the modified AASHTO test, or other specifications generally recognized by transportation engineers as adequate for design of highway embankments, shall be used to determine the degree of compaction required, on the basis of soil type and the anticipated volume of traffic and weight and speed of vehicles to be used. Compaction effort shall be adequate to achieve the degree of compaction required. No lift shall be placed on a layer until the design density is achieved throughout the layer. AASHTO specifications such as T-99, T-180, the modified AASHTO test, or other comparable specifications approved by the regulatory authority shall be used as guidelines for the determination of the maximum dry density for granular materials.

(7) Material shall be placed in an embankment only when its moisture content is within acceptable levels to achieve design compaction.

(8) Embankment slopes shall not be steeper than 1v:2h, except that where the embankment material is a minimum of 85 percent rock, slopes shall not be steeper than 1v:1.35h if it has been demonstrated to the regulatory authority that embankment stability will result. Where rock embankments are constructed they shall meet the requirements of paragraph (d)(4) of this Section.

(9) The minimum safety factor for all embankments shall be 1.25, or such higher factor as the regulatory authority may specify.

(10) The road surface shall be sloped toward the ditch line at a minimum rate of one-quarter inch per foot of surface width, or crowned at a minimum rate of one-quarter inch per foot of surface width as measured from the centerline of the road.

(11) All material used in embankments shall be suitable for use under paragraphs (d)(1)-(8) of this Section. The material shall be reasonably free of organic material, coal or coal blossom, frozen materials, wet or peat material, natural soils containing organic matter, or any other material considered unsuitable by the regulatory authority for use in embankment construction.

(12) Excess or unsuitable material from excavations, as defined in paragraph (d)(11) of this Section, shall be disposed of in accordance with 30 CFR 817.71. Acid- and toxic-forming materials shall be disposed of in accordance with 30 CFR 817.48, 817.81, and 817.103.

(13) Acid-producing materials shall be permitted for constructing embankments for, only those Class I Roads constructed or reconstructed on coal processing waste banks and only if it has been demonstrated to the regulatory authority that no additional acid will leave the confines of the coal processing waste bank. In no case shall acid-bearing refuse material be used outside the confines of the coal processing waste bank. Restoration of the road shall be in accordance with the requirements of 30 CFR 817.103-817.117.

(14) Topsoil or other materials suitable under 30 CFR 817.22 shall be placed on all embankment slopes of 1v:1.5h or flatter to aid in establishing vegetation and to minimize erosion. Topsoil depth shall be adequate to support vegetation and to prevent erosion.

(15) Temporary erosion-control measures shall be incorporated during construction to control sedimentation and minimize erosion until permanent control measures can be established.

(e) Topsoil removal. Before initiation of construction or reconstruction of a Class I Road, topsoil and other materials, as determined under 30 CFR 817.22, shall be removed from the design roadbed, shoulders, and surface where associated structures will be placed, and shall be stored in accordance with 30 CFR 817.23.

817.153
Roads: Class I: Drainage.

(a) General.

(1) Each Class I Road shall be designed, constructed, or reconstructed, and maintained to have adequate drainage, using structures, such as, but not limited to, ditches, cross drains, and ditch relief drains. The water-control system shall be designed to safely pass the peak runoff from a 10-year, 24-hour precipitation event or a greater event if required by the regulatory authority.

(2) Sediment control shall comply with 30 CFR 817.42 and 817.45.

(3) Vegetation shall not be cleared for more than the width necessary for road and associated ditch construction, to serve traffic needs and for utilities.

(b) Ditches.

(1) A ditch shall be provided on both sides of a through-cut and on the inside shoulder of a cut and-fill section, with ditch relief cross-drains spaced according to grade. Water shall be intercepted before reaching a switchback or large fill and drained safely away in accordance with this Section. Water from a fill or switchback shall be released below the fill, through conduits or in riprapped channels, and shall not be discharged onto the fill. Drainage ditches shall be placed at the toe of all cut slopes formed by the construction of roads.

(2) On flat sections of Class I Roads where rolling topography is insufficient to provide natural ditch drainage, the road grade shall be undulated to provide for free flow of water in the ditch section. Road sections may be constructed to elevate the road surface above the original ground surface to facilitate drainage.

(c) Culverts and bridges. (1)(i) Culverts with an end area of 35 square feet or less shall be designed to safely pass the 10-year, 24-hour precipitation event without a head of water at the entrance. Culverts with an end area of greater than 35 square feet, and bridges with spans of 30 feet or less, shall be designed to safely pass the 20-year, 24-hour precipitation event. Bridges with spans of more than 30 feet shall be designed to safely pass the 100-year, 24-hour precipitation event, or a larger event as specified by the regulatory authority.

(ii) Drainage pipes and culverts shall be constructed to avoid plugging or collapse and erosion at inlets and outlets.

(iii) Trash racks and debris basins shall be installed in the drainage area wherever debris from the drainage area could impair the functions of drainage and sediment-control structures.

(iv) All culverts shall be covered by compacted fill to a minimum depth of 1 foot.

(v) Culverts shall be designed, constructed, and maintained to sustain the vertical soil pressure, the passive resistance of the foundation, and the weight of vehicles to be used.

(2) Culverts for road surface drainage only, shall be constructed in accordance with the following:

(i) Unless otherwise authorized or required under paragraphs (ii) or (iii) of this Section, culverts shall be spaced as follows:

(A) Spacing shall not exceed 1,000 feet on grades of 0 to 3 percent.

(B) Spacing shall not exceed 800 feet on grades of 3 to 6 percent.

(C) Spacing shall not exceed 500 feet on grades of 6 to 10 percent.

(D) Spacing shall not exceed 300 feet on grades of 10 percent or greater.

(ii) Culverts at closer intervals than the maximum in paragraph (c)(2)(i) of this Section shall be installed if required by the regulatory authority as appropriate for the erosive properties of the soil or to accommodate flow from small intersecting drainages.

(iii) Culverts may be constructed at greater intervals than the maximum indicated in paragraph (c)(2)(i) of this Section if authorized by the regulatory authority upon a finding that greater spacing will not increase erosion.

(iv) Culverts shall cross the road at not less than a 30° angle downgrade.

(v) Culverts may be designed to carry less than the peak runoff from a 10-year, 24-hour precipitation event if the ditch will not overtop and will remain stable.

(vi) The inlet end shall be protected by a rock headwall or other material approved by the regulatory authority as adequate protection against erosion of the headwall. The water shall be discharged below the toe of the fill through conduits or in riprapped channels and shall not be discharged onto the fill.

(d) Natural drainage. Natural-channel drainageways shall not be altered or relocated for road construction or reconstruction without the prior approval of the regulatory authority, in accordance with 30 CFR 817.43 and 817.44. The regulatory authority may approve alterations and relocations only if--

(1) The natural-channel drainage is not blocked;

(2) No significant damage occurs to the hydrologic balance; and

(3) There is no adverse impact on adjoining landowners.

(e) Stream crossings. Drainage structures are required for stream channel crossings. Drainage structures shall not affect the normal flow or gradient of the stream, or adversely affect fish migration and aquatic habitat or related environmental values.

817.154
Roads: Class I: Surfacing.

(a) Class I Roads shall be surfaced with rock, crushed gravel, asphalt, or other material approved by the regulatory authority as sufficiently durable for the anticipated volume of traffic and weight and speed of vehicles to be used.

(b) Acid- or toxic-forming substances shall not be used in road surfacing.

817.155
Roads: Class I: Maintenance.

(a) Class I Roads shall be maintained in such a manner that the required or approved design standards are met throughout the life of the entire transportation facility including surface, shoulders, parking and side areas, approach structures, erosion control devices, cut-and-fill sections, and such traffic-control devices as are necessary for safe and efficient utilization of the road.

(b) Class I Road maintenance shall include repairs to the road surface, blading, filling of potholes, and replacement of gravel or asphalt. It shall include revegetating, brush removal, watering for dust control, and minor reconstruction of road segments as necessary.

(c) Class I roads damaged by catastrophic events such as floods or earthquakes shall not be used until reconstruction of damaged road elements. The reconstruction shall be completed as soon as practicable after the damage has occurred.

817.156
Roads: Class I: Restoration.

(a) Unless the regulatory authority approves retention of the road as suitable for the approved postmining land use, immediately after a road is no longer needed for operations, reclamation, or monitoring-

(1) The road shall be closed to vehicular traffic;

(2) The natural-drainage patterns shall be restored;

(3) All bridges and culverts shall be removed;

(4) Roadbeds shall be ripped, plowed, and scarified;

(5) Fill slopes shall be rounded or reduced and shaped to conform the site to adjacent terrain and to meet natural-drainage restoration standards;

(6) Cut slopes shall be shaped to blend with the natural contour;

(7) Cross drains, dikes, and water bars shall be constructed to minimize erosion;

(8) Terraces shall be constructed as necessary to prevent excessive erosion and to provide long term stability in cut-and-fill slopes; and

(9) Road surfaces shall be covered with topsoil in accordance with 30 CFR 817.24(b) and revegetated in accordance with 30 CFR 817.111-817.116.

(b) Unless otherwise authorized by the regulatory authority, all road-surfacing materials shall be removed, handled or conveyed, and disposed of under 30 CFR 817.89.

817.160
Roads: Class II: General.

(a) Each person who conducts underground mining activities shall design, construct or reconstruct, utilize, and maintain Class II Roads and restore the area to meet the requirements of 30 CFR 817.161-817.166 and to control or minimize erosion and siltation, air and water pollution, and damage to public or private property.

(b) To the extent possible using the best technology currently available, Class II Roads shall not cause damage to fish, wildlife, and related environmental values and shall not cause additional contributions of suspended solids to streamflow or to runoff outside the permit area. Any such contributions shall not be in excess of limitations of State or Federal laws.

(c) All Class II Roads shall be removed and the land affected regraded and revegetated in accordance with the requirements of 30 CFR 817.166, unless--

(1) Retention of the road is approved as part of the approved postmining land use or as being necessary to control erosion adequately;

(2) The necessary maintenance is assured; and

(3) All drainage is controlled according to 30 CFR 817.163.

(d) (1) Class II Roads shall be designed and constructed in accordance with 30 CFR 817.161-817.164 except to the extent that alternative specifications are used. Alternative specifications may be used only after approval by the regulatory authority upon a demonstration by a qualified professional engineer that they will result in performance equal or better than that resulting from Class II Roads complying with 30 CFR 817.161-817.166.

(2) The design shall incorporate consideration of the needs of the specific uses of the road in addition to travel efficiency. To the extent that the anticipated volume of traffic or weight or speed of vehicles to be used requires higher standards than those set forth in 30 CFR 817.161-817.166, such higher standards shall be incorporated in the design, construction or reconstruction, and maintenance of Class II roads.

817.161
Roads: Class II: Location.

(a) Class II Roads shall be located, insofar as possible, on ridges or on the most stable available slopes to minimize erosion.

(b) No part of any Class II road shall be located in the channel of an intermittent or perennial stream unless approved by the regulatory authority.

(c) Stream fords are prohibited unless they are specifically approved by the regulatory authority as temporary routes during periods of construction. The fords shall not adversely affect stream sedimentation or fish, wildlife, and related environmental values. All other stream crossings shall be made using bridges, culverts, or other structures, designed, constructed, and maintained to meet the requirements of 30 CFR 817.163.

(d) Class II Roads shall be located to minimize downstream sedimentation or flooding.

817.162
Roads: Class II: Design and construction.

Class II Roads shall be designed and constructed or reconstructed in compliance with the following standards in order to control subsequent erosion and disturbance of the hydrologic balance;

(a) Vertical alinement. A continuous grade with excessive cuts or embankments shall be avoided. Changes of grade shall be made to conform as closely as possible to the existing terrain, and maximum road grades shall be as follows:

(1) The overall grade shall not exceed 1v:10h (10 percent).

(2) The pitch grade shall not exceed 1v:6.5h (15 percent) for any consecutive 1,000 feet.

(3) The pitch grade exceeding 15 percent shall not be longer than 300 feet within any consecutive 1,000 feet of road constructed.

(b) Horizontal alinement. Class II Roads shall have horizontal alinement as consistent with the existing natural topography as possible, and shall provide the alinement required for the performance standards of 30 CFR 817.160-817.166. The alinement shall be determined in accordance with the anticipated volume of traffic and weight and speed of vehicles to be used. Horizontal and vertical alinement shall be coordinated to ensure that one will not adversely affect the other and to ensure that the road will not cause environmental damage.

(c) Road cuts. Cut slopes shall not be steeper than specifically authorized by the regulatory authority, which shall not authorize slopes steeper than 1v:1.5h in unconsolidated materials or 1v:0.25h in rock, except that steeper slopes may be specifically authorized by the regulatory authority if geotechnical analysis demonstrates that a minimum safety factor of 1.5 can be maintained.

(1) Topsoil or other materials suitable under 30 CFR 817.22 shall be placed on all cut slopes of 1v:1.5h or flatter to aid in establishing vegetation and to minimize erosion. Topsoil depth shall be adequate to support vegetation necessary to minimize erosion.

(2) Temporary erosion-control measures shall be implemented during construction to minimize sedimentation and erosion until permanent control measures can be established.

(d) Road embankments. Embankment sections shall be constructed in accordance with the following provisions:

(1) All vegetative material and topsoil shall be removed from the embankment foundation to increase stability, and no vegetative material or topsoil shall be placed beneath or in any Class II Road embankment.

(2) Where an embankment is to be placed on side slopes exceeding 1v:3h (33 percent), the existing ground shall be plowed, stepped, or if in rock, keyed in a manner which increases the stability of the fill. The keyway shall be a minimum of 10 feet in width and shall begin at the toe of the

fill. No material shall be placed below the toe or be allowed to slide below the toe. For slopes of less than 1v:3h (33 percent), the slopes shall be scarified to ensure bonding of the embankment and natural material.

(3) Material containing by volume less than 25 percent of rock larger than 6 inches in greatest dimension shall be spread in successive uniform layers not exceeding 12 inches in thickness before compaction.

(4) Where the material for an embankment consists of large-size rock, broken stone, or fragmented material that makes placing in 12-inch layers impossible under paragraph (d)(3) of this Section, the embankment shall be constructed in uniform layers not exceeding in thickness the approximate average size of the rock used, but the layers shall not exceed 36 inches in thickness. Rock shall not be dumped in final position, but shall be distributed by blading or dozing in a manner that will ensure proper placement in the embankment, so that voids, pockets, and bridging will be reduced to a minimum. The final layer of the embankment shall meet the requirements of paragraph (d)(3) of this Section.

(5) Each layer of the embankment shall be completed, leveled, and compacted before the succeeding layer is placed. Embankment material shall be leveled as placed and kept smooth. The successive layers shall be compacted evenly by hauling and leveling equipment over the entire width of the embankment. This procedure shall be continued until no visible horizontal movement of the embankment material is apparent.

(6) Compaction greater than that specified in paragraph (d)(5) shall be performed to the extent necessary to ensure stability.

(7) Material shall be placed in an embankment under moisture content conditions which will permit compaction and ensure proper soil cohesion.

(8) Embankment slopes shall not be steeper than 1v:1.5h, except that if the embankment material is a minimum of 85 percent rock, slopes shall not be steeper than 1v:1.35h if it has been demonstrated to the regulatory authority that embankment stability will result. Where rock embankments are constructed they shall meet the requirements of paragraph (d)(4) of this Section.

(9) The minimum safety factor for all embankments shall be 1.25, or such higher factor as the requlatory authority may specify.

(10) The road surface shall be sloped sufficiently to prevent ponding of water on the surface.

(11) All material used in embankments shall be suitable for use under paragraphs (d)(1)-(8) of this Section. The material shall be reasonably free of organic material, coal or coal blossom, frozen materials, wet or peat material or natural soils containing organic matter, or any other material considered unsuitable for use in embankment construction by the regulatory authority.

(12) Excess or unsuitable material from excavations, as defined in paragraph (d)(11) of this Section, shall be disposed of in accordance with 30 CFR 817.71. Acid- and toxic-forming material shall be disposed of in accordance with 30 CFR 817.48, 817.81 and 817.103.

(13) Topsoil or other material suitable under 30 CFR 817.22 shall be placed on all embankment slopes of 1v:1.5h or flatter, to aid in establishing vegetation and to minimize erosion. Topsoil material depth shall be adequate to support vegetation and to minimize erosion.

(14) Temporary erosion-control measures shall be incorporated during construction to control sedimentation and minimize erosion until permanent control measures can be established.

(e) Topsoil removal. Before initiation of construction or reconstruction of a Class II Road, topsoil and other materials, as determined under 30 CFR 817.22, shall be removed from the design roadbed, shoulders, and surfaces where associated structures will be placed, and shall be stored in accordance with 30 CFR 817.23.

817.163
Roads: Class II: Drainage.

(a) General.

(1) Each Class II Road shall be designed, constructed or reconstructed, and maintained to have adequate drainage, using structures such as ditches in wet areas, cross drains in natural drainageways, surface dips, and stream crossings. The water-control system shall be designed to safely pass the peak runoff from a 10-year, 24 hour precipitation event or a greater event if required by the regulatory authority.

(2) Sediment control shall comply with 30 CFR 817.42 and 817.45.

(b) Ditches and alternative measures for roadbed erosion control. Where required to minimize erosion on the roadbed, ditches shall be designed and constructed in accordance with 30 CFR 817.153(b). In wet areas or where there is free water such ditch sections shall be required. For every segment of a Class II Road without drainage ditches which comply with 30 CFR 817.153(b), drainage shall be provided by surface dips. These drainage dips shall be constructed as undulations in the roadway of sufficient height from the hydraulic bottom to the top of the dip to prevent water from running down the surface of the road. Insloped dips shall discharge into a culvert or drop inlet. Outsloped dips shall discharge either onto the natural ground or, onto embankments if a drain is provided. The bottom of the dip shall be rock surfaced to prevent erosion. Dip spacing shall be sufficient to minimize erosion of the road surface.

(c) Culverts and bridges.

(1)(i) Culverts with an end area of 35 square feet or less shall be designed to safely pass the 10-year, 24-hour precipitation event without a head of water at the entrance. Culverts with an end area of greater than 35 square feet, and bridges with spans of 30 feet or less, shall be designed to safely pass the 20-year, 24-hour precipitation event. Bridges with spans of more than 30 feet shall be designed to safely pass the 100-year, 24-hour precipitation event or larger event as specified by the regulatory authority.

(ii) Drainage pipes and culverts shall be constructed to avoid plugging or collapse, and erosion at inlets and outlets.

(iii) Culverts shall be covered by compacted fill to a minimum depth of 1 foot.

(iv) Culverts shall be designed, constructed, and maintained to sustain the vertical soil pressure, the passive resistance of the road foundation, and the weight of vehicles to be used.

(2) Culverts or dips for road surface drainage only, shall be constructed in accordance with the following:

(i) Unless otherwise authorized or required under paragraphs (ii) or (iii) of this Section, culverts and dips shall be spaced as follows:

(A) Spacing shall not exceed 1,000 feet on grades of 0 to 3 percent.

(B) Spacing shall not exceed 600 feet on grades of 3 to 6 percent.

(C) Spacing shall not exceed 400 feet on grades of 6 to 10 percent.

(D) Spacing shall not exceed 200 feet on grades of 10 percent or greater.

(ii) Surface dips or culverts at closer intervals than the maximum indicated in paragraph (c)(2)(i) of this Section shall be installed if required by the regulatory authority as appropriate for the erosive properties of the soil or to accommodate flow from small intersecting drainages.

(iii) Surface dips or culverts may be constructed at greater intervals than the maximum indicated in paragraph (c)(2)(i) of this Section if authorized by the regulatory authority upon a finding that greater spacing will not increase erosion.

(iv) Culverts and the bottoms of drainage dips shall cross the road at not less than a 30° angle downgrade.

(v) A culvert may be designed to carry less than the peak runoff from a 10-year, 24-hour precipitation event if the ditch will not overtop and will remain stable.

(vi) The inlet end of all culverts shall be protected by a rock headwall or other material approved by the regulatory authority as adequate protection against erosion of the headwall. The water shall be discharged below the toe of the fill, through conduits or in riprapped channels and shall not be discharged onto the fill.

(d) Natural drainage. Natural-channel drainageways shall not be altered or relocated for road construction or reconstruction without the prior approval of the regulatory authority in accordance with 30 CFR 817.43 and 817.44. The regulatory authority may approve alterations and relocations only if--

(i) The natural-channel drainage is not blocked;

(ii) No significant degradation occurs to the hydrologic balance; and

(iii) There is no adverse impact on adjoining landowners.

(e) Stream crossings. Drainage structures are required for stream-channel crossings. Drainage structures shall not affect the normal flow or gradient of the stream, or adversely affect fish migration or aquatic habitat or related environmental values.

817.164
Roads: Class II: Surfacing.

(a) Class II Roads shall be surfaced with rock, crushed gravel, asphalt, or other material approved by the regulatory authority as sufficiently durable for the anticipated volume of traffic and weight and speed of vehicles to be used.

(b) Acid- or toxic-forming substances shall not be used in road surfacing.

(c) Vegetation shall not be cleared for more than the width necessary for road and associated ditch construction, to serve traffic needs and for utilities.

817.165
Roads: Class II: Maintenance

(a) Class II Roads shall be maintained in such a manner that the required or approved design criteria are met throughout the life of the facility including surface and shoulders, parking, side areas, approach structures, erosion-control devices, and such traffic-control devices as are necessary for safe and efficient utilization.

(b) Class II Road maintenance shall include basic custodial care as required to protect the road investment and to prevent damage to adjacent resources. This includes maintenance to control erosion, repair of structures and drainage systems, removal of rocks and debris, replacement of surface and restoration of the road prism.

817.166
Roads: Class II: Restoration.

(a) Unless the regulatory authority approves retention of the road as suitable for the approved postmining land use, immediately after a road is no longer needed for operations, reclamation, or monitoring--

(1) The road shall be closed to vehicular traffic;

(2) The natural drainage patterns shall be restored;

(3) All bridges and culverts shall be removed;

(4) Roadbeds shall be ripped, plowed, and scarified;

(5) Fill slopes shall be rounded or reduced and shaped to conform the site to adjacent terrain and to meet natural drainage restoration standards;

(6) Cut slopes shall be reshaped to blend with the natural contour;

(7) Cross drains, dikes, and water bars shall be constructed to minimize erosion;

(8) Terraces shall be constructed as necessary to prevent excessive erosion and to provide long-term stability in cut-and-fill slopes; and

(9) Road surfaces shall be covered with topsoil in accordance with 30 CFR 817.24(b) and revegetated in accordance with 30 CFR 817.111-817.116.

(b) Unless otherwise authorized by the regulatory authority, all road surfacing materials shall be removed, handled or conveyed, and disposed of under 30 CFR 817.89.

816.170
Roads: Class III: General.

(a) Each person who conducts underground mining activities shall design, construct or reconstruct, utilize, and maintain Class III Roads and restore the area to meet the requirements of 30 CFR 817.171-817.176 and to control or minimize erosion and siltation, air and water pollution, and damage to public or private property.

(b) To the extent possible using the best technology currently available, Class III Roads shall not cause damage to fish, wildlife, and related environmental values and shall not cause additional contributions of suspended solids to streamflow or to runoff outside the permit area. Any such contributions shall not be in excess of limitations of State or Federal laws.

(c) All Class III Roads shall be completely removed and the land affected regraded to the approximate original contour and revegetated in accordance with the requirements of 30 CFR 817.176 except where 30 CFR 817.171(c) shall apply.

(d) To the extent the anticipated volume of traffic or weight or speed of vehicles to be used requires higher standards than those set forth in 30 CFR 817.171-817.175, such higher standards shall be incorporated in the design, construction, reconstruction or maintenance of Class III Roads.

817.171
Roads: Class III: Location.

(a) Class III Roads shall be located on ridges or on the most stable available slopes to minimize erosion.

(b) No part of any Class III Road shall be located in the channel of an intermittent or perennial stream unless specifically approved by the Regulatory authority.

(c) Stream fords are prohibited unless they are approved by the regulatory authority as temporary routes across ephemeral or intermittent streams that will not adversely affect stream sedimentation or fish, wildlife, and related environmental values. All other stream crossings shall be made using temporary bridges, culverts, or other structures designed, constructed, and maintained to meet the requirements of 30 CFR 817.173.

(d) Class III Roads shall be constructed to minimize downstreat sedimentation or flooding.

(e) Not later than the date a permit application is submitted to the regulatory authority for underground mining activities for which a Class III Road is proposed, the location of the proposed road shall be clearly marked in the field by flags or stakes to enable the regulatory authority to perform onsite review.

(f) Class III Roads shall not be located in wet, steep, or unstable areas where complete restoration under 30 CFR 817.176 cannot be accomplished.

(g) A Class III Road may be constructed in the same alinement as a Class I or Class II Road that is to be constructed on the same location at a later date. This may be permitted if the requirements for the location of the Class I or Class II Road are met, and the construction begins within 6 months from the time the Class III Road is constructed.

817.172
Roads: Class III: Design and construction.

Field-design methods shall be utilized for Class III Roads.

(a) Vertical alinement. Except where lesser grades are necessary to control site-specific conditions, maximum road grades shall be as follows:

(i) The overall grade shall not exceed 1v:10h (10 percent).

(ii) The maximum pitch grade shall not exceed 1v:5h (20 percent).

(iii) There shall not be more than 1,000 consecutive feet of pitch grade exceeding 10 percent.

(b) Horizontal alinement. Class III Roads may meander so as to avoid large growths of vegetation and other natural obstructions.

(c) Road cuts. Sidecast construction may be used.

(d) Road embankments. Compaction on embankments shall be required only to the extent necessary to control erosion and maintain the road.

(e) Topsoil removal. Topsoil shall be removed and stockpiled only where excavation would require replacement of material and redistribution of topsoil for proper revegetation.

817.173
Roads: Class III: Drainage.

(a) General.

(1) Class III Road drainage shall consist of temporary culverts in flowing streams, wet areas, and in ephemeral channels as necessary to protect the facility during its life and to minimize disturbance of the hydrologic balance.

(2) Sediment control shall comply with 30 CFR 817.42 and 817.45.

(b) Culverts and bridges. Temporary culverts shall be installed for all flowing drainages and stream crossings. Temporary culverts and bridges shall be sized to safely pass the 1-year, 6-hour precipitation event.

(c) Natural drainage. Natural-drainage channels shall not be altered or relocated for the purposes of Class III Road construction.

(d) Stream crossings. Temporary drainage structures are required for crossing permanent streams. Drainage structures shall not affect the normal flow or gradient of the stream, adversely affect fish migration and aquatic habitat or related environmental values.

817.174
Roads: Class III: Surfacing.

(a) Class III Road surfaces shall be adequate for the use of the road.

(b) Acid- or toxic-forming substances shall not be used in road surfacing.

(c) Vegetation shall not be cleared for more than the width necessary to serve traffic needs and for utilities.

817.175
Roads: Class III: Maintenance.

(a) Class III Road maintenance shall be sufficient to ensure minimization of erosion for the life of the road.

(b) Class III Roads shall not be used if climatic conditions are such that usage may cause degradation of water quality.

817.176
Roads: Class III: Restoration.

Immediately after a Class III Road is no longer needed for operations, reclamation, or monitoring--

(a) The road shall be closed to vehicular traffic;

(b) The natural drainage patterns shall be restored;

(c) All bridges and culverts shall be removed;

(d) Roadbeds shall be ripped, plowed, and scarified;

(e) Fill slopes shall be rounded or reduced and shaped to conform the site to adjacent terrain and meet natural drainage restoration standards;

(f) Cut slopes shall be reshaped to blend with the natural contour;

(g) Cross drains, dikes, and water bars shall be constructed to control erosion; and

(h) Road surfaces from which topsoil has been removed shall be covered with topsoil in accordance with 30 CFR 817.24(b), and the surface shall be revegetated in accordance with 30 CFR 817.111-817.116.

817.180
Other transportation facilities.

Railroad loops, spurs, sidings, surface conveyor systems, chutes, aerial tramways, or other transport facilities shall be designed, constructed or reconstructed, and maintained, and the area restored to--

(a) Prevent, to the extent possible using the best technology currently available--

(1) Damage to fish, wildlife and related environmental values; and

(2) Additional contributions of suspended solids to streamflow or runoff outside the permit area. Any such contributions shall not be in excess of limitations of State or Federal laws;

(b) Control and minimize diminution or degradation of water quality and quantity;

(c) Control and minimize erosion and siltation;

(d) Control and minimize air pollution; and

(e) Prevent damage to public or private property.

817.181
Support facilities and utility installations.

(a) Support facilities required for, or used incidentally to, the operation of the underground mine, including, but not limited to, mine buildings, coal-loading facilities at or near the mine-site, coal-storage facilities, equipment-storage facilities, fan buildings, hoist buildings, preparation plants, sheds, shops, and other buildings, shall be designed, constructed or reconstructed, and located to prevent or control erosion and siltation, water pollution, or damage to public or private property. Support facilities shall be designed, constructed or reconstructed, maintained, and used in a manner which prevents, to the extent possible using the best technology currently available--

(1) Damage to fish, wildlife, and related environmental values; and

(2) Additional contributions of suspended solids to streamflow or runoff outside the permit area. Any such contributions shall not be in excess of limitations of State or Federal laws.

(b) All underground mining activities shall be conducted in a manner which minimizes damage, destruction, or disruption of services provided by oil, gas, and water wells; oil, gas, and coal-slurry pipelines; railroads; electric and telephone lines; and water and sewages lines which pass over, under, or through the permit area, unless otherwise approved by the owner of those facilities and the regulatory authority.

PART 818-- SPECIAL PERMANENT PROGRAM PERFORMANCE STANDARDS-- CONCURRENT SURFACE AND UNDERGROUND MINING

Sec.
818.1 Scope.
818.2 Objective.
818.4 Responsibilities.
818.11 Applicability.
818.13 Compliance with variance terms.
818.15 Additional performance standards.

Authority: Secs. 102, 201, 501, 503, 504, 506, 508, 510, 515, 516, 517, Pub. L. 995-87, 91 Stat. 448, 449, 467, 470, 471, 473, 478, 486, 495 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1256, 1258, 1565, 1266).

§818.1
Scope.

This Part sets forth the minimum performance standards with which each person who combines surface mining activities with underground mining activities must comply under a variance from the requirement that reclamation efforts proceed as contemporaneously as practicable for specific areas within the permit area.

§818.2
Objective.

The objective of this Part is to ensure the maximum practicable recovery of coal resources and to avoid multiple disturbances of surface lands or waters.

§818.4
Responsibilities.

(a) The regulatory authority shall review and grant or deny requests for variances from the requirement that reclamation efforts proceed as contemporaneously as practicable, in accordance with 30 CFR 785.18 and this Part.

(b) The person who conducts combined surface and underground mining activites shall comply with the provisions of this Part.

§818.11
Applicability.

A variance under this Part applies only to those specific areas within the permit area that the person conducting combined surface and underground mining activites has shown to be necessary for implementing the proposed concurrent operations and that the regulatory authority has approved in the permit under 30 CFR 785.18. The variance is effective for any particular portion of the permit area only for the time necessary to facilitate the authorized underground mining activities.

§818.13
Compliance with variance terms.

(a) Each person who conducts operations under a variance issued under 30 CFR 785.18 shall comply with all applicable requirements of this Subchapter and the regulatory program, except to the extent that--

(1) A delay in compliance with these requirements is specifically authorized by the variance issued under the permit; and

(2) The delay in compliance is necessary to achieve the purposes for which the variance was granted.

(b) Each person who conducts activities under a variance issued under 30 CFR 785.18 shall comply with each requirement of the variance as set forth in the permit.

§818.15
Additional performance standards.

In addition to the requirements of 30 CFR 816 and 817, each person who conducts combined surface and underground mining activites shall comply with the following:

(a) A 500-foot barrier pillar of coal shall be maintained between the surface and underground mining activities in any one seam. The regulatory authority and the Mine Safety and Health Administration may, however, approve a lesser distance, after a finding by the regulatory authority that mining at a lesser distance will result in--

(1) Improved coal resources recovery;

(2) Abatement of water pollution; or

(3) Elimination of hazards to the health and safety of the public.

(b) The vertical distance between combined surface and underground mining activities working separate seams shall be sufficient to provide for the health and safety of the workers and to prevent surface water from entering the underground workings.

(c) No combined activities shall reduce the protection provided public health and safety below the level of protection required for those activities if conducted without a variance.

PART 819-- SPECIAL PERMANENT PROGRAM PERFORMANCE STANDARDS-- AUGER MINING

Sec.
819.1 Scope.

819.2 Objectives.
819.11 Auger mining: Additional performance standards.

Authority : Secs. 102, 201, 501, 503, 504, 510, 515, 517, 701, Pub. L. 95-87, 91 Stat, 448, 449, 467, 470, 471, 480, 486, 498, 516 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1260, 1265, 1267, 1291).

§819.1
Scope.

This Part sets forth environmental protection performance standards in addition to those of Part 816 for surface mining activities involving auger mining.

§819.2
Objectives.

The objectives of this Part are to--

(a) Prevent adverse environmental effects from auger mining; and

(b) Prevent any unnecessary loss of coal reserves.

§819.11
Auger mining: Additional performance standards.

(a) Any auger mining associated with surface mining activities shall be conducted to maximize recoverability of mineral reserves remaining after the mining activities are completed. Each person who conducts auger mining and reclamation operations shall leave areas of undisturbed coal to provide access for removal of those reserves by future underground mining activities, unless the regulatory authority determines that the coal reserves have been depleted or are limited in thickness or extent to the point that it will not be practicable to recover the remaining coal reserves. The regulatory authority shall make such determination only upon presentation of appropriate technical evidence by the operator.

Undisturbed areas of coal shall be left in unmined sections which--

(1) Are minimum of 250 feet wide at any point between each group of auger openings to the full depth of the auger hole;

(2) Are no more than 2,500 feet apart, measured from the center of one section to the center of the next section, unless a greater distance is set forth in the permit application under 30 CFR 785.20 and approved by the regulatory authority; and

(3) For multiple seam mining, shall have a width of at least 250 feet plus 50 feet for each subjacent workable coal seam. The centers of all unmined sections shall be aligned vertically.

(b) No auger hole shall be made closer than 500 feet in horizontal distance to any abandoned or active underground mine workings, except as approved in accordance with 30 CFR 816.79.

(c) In order to prevent pollution of surface and ground water and to reduce fire hazards, each auger hole, except as provided in paragraph (d) of this Section, shall be plugged so as to prevent the discharge of water from the hole and access of air to the coal, as follows:

(1) Each auger hole discharging water containing toxic-forming or acid-forming material shall be plugged within 72 hours after completion by backfilling and compacting noncombustible and impervious material into the hole to a depth sufficient to form a water-tight seal or the discharge shall be treated commencing within 72 hours after completion to meet applicable effluent limitations and water quality standards under 30 CFR 816.42, until the hole is properly sealed; and

(2) Each auger hole not discharging water shall be sealed as in paragraph (c) (1) of this Section, to close the opening within 30 days following completion.

(d) An auger hole need not be plugged, if the regulatory authority finds--

(1) Impoundment of the water which would result from plugging the hole may create a hazard to the environment or public health or safety;

(2) Drainage from the auger hole will not pose a threat of pollution to surface water and will comply with the requirements of 30 CFR 816.41-816.42; and

(e) The regulatory authority shall prohibit auger mining, if it determines that--

(1) Adverse water quality impacts cannot be prevented or corrected and fill stability cannot be achieved;

(2) The prohibition is necessary to maximize the utilization, recoverability or conservation of the solid fuel resources; or

(3) Subsidence resulting from auger mining may disturb or damage powerlines, pipelines, buildings, or other facilities.

PART 820-- SPECIAL PERMANENT PROGRAM PERFORMANCE STANDARDS-- ANTHRACITE MINES IN PENNSYLVANIA

Sec.
820.1 Scope.
820.2 Objective.
820.11 Performance standards: Anthracite mines in Pennsylvan

Authority : Secs. 102, 201, 501, 503, 504, 529, Pub. L. 995-97, 91 Stat. 448, 449, 467, 470, 471, 514 30 (U.S.C. 1202, 1211, 1251, 1253, 1254, 1279).

§820.1
Scope.

This Part sets forth environmental protection performance standards for anthracite surface coal mining and reclamation operations in Pennsylvania.

§820.2
Objective.

This Part implements Subsection 529(a) of the Act, which requires the Secretary to adopt special performance standards for anthracite mines regulated by special environmental protection performance standards of a State as of the date of enactment of the Act.

§820.11
Performance standards: Anthracite mines in Pennsylvania.

(a) Anthracite surface coal mining and reclamation operations in Pennsylvania shall comply with all the Pennsylvania environmental protection provisions for anthracite coal mining in effect on August 3, 1977, instead of the other provisions of this Subchapter. These Pennsylvania provisions include, but are not limited, to--

(1) The Pennsylvania Anthracite Strip Mining and Conservation Act, June 27, 1947, P.L. 1095, as amended through August 3, 1977, 52 P.S. Section 681.1 et seq. (Purdons 1966, 1978 Supp.) and regulations adopted thereunder;

(2) The Pennsylvania Coal Refuse Disposal Control Act, September 24, 1968, P.L. 1040, No. 318, as amended through August 3, 1977, 52 P.S. Section 30.51 et seq. (Purdons 1966, 1978 Supp.)

(3) The Pennsylvania Surface Mining Conservation and Reclamation Act, May 31, 1945, P.L. 1198, as amended through August 3, 1977, 52 P.S. 1396.1 et seq. (Purdons 1966, 1978 Supp.) and regulations adopted thereunder;

(4) The Pennsylvania Anthracite Coal Mine Act of 1965, P.L. No 346, as amended through August 3, 1977, 52 P.S. Section 70.101 et seq. (Purdons 1966, 1978 Supp.) and regulations adopted thereunder;

(5) The Pennsylvania Clean Streams Law, as amended through August 3, 1977, 35 P.S. Sections 691.1 et seq. (Purdons 1977) and regulations adopted thereunder;

(6) The Pennsylvania Gas Operations, Well-Drilling, Petroleum and Coal Mining Act, P.L. 756, Nov. 30, 1965, as amended through August 3, 1977, 52 P.S. Section 2101 et seq. (Purdons 1966, 1978 Supp.) and regulations adopted thereunder;

(7) Provisions regulating the discharge of coal, culm or refuse into streams under P.L. 640, June 27, 1913, as amended through August 3, 1977 52 P.S. Section 631 et seq. (Purdons 1966, 1978 Supp.) and regulations adopted thereunder;

(8) Regulation of coal stripping under P.L. 133, June 18, 1941, as amended through August 3, 1978, 52 P.S. Section 1471 et seq. (Purdons 1966, 1978 Supp.) and regulations adopted thereunder;

(9) Regulation of subsidence under P.L. 1198, May 22, 1921, as amended through August 3, 1977, 52 P.S. Section 661 et seq. (Purdons 1966, 1978 Supp.) and regulations adopted thereunder;

(10) Regulation of subsidence under P. L. 1538, Sept. 20, 1961, as amended through August 3, 1977 (52 P.S. Section et seq. (Purdons 1966, 1978 Supp.) and regulations adopted thereunder;

(11) The establishment of mine safety zones under P.L. 1994, Dec. 22, 1959, as amended through August 3, 1977, 52 P.S. Section 3101 et seq. (Purdons 1966, 1978 Supp.) and regulations adopted thereunder; and

(12) Pennsylvania Air Pollution Control Act of January 8, 1960, P.L. as amended through August 3, 1977, 35 P.S. Section 4001 et. seq. (Purdons 1977) and regulations adopted thereunder; and,

(13) Pennsylvania Solid Waste Management Act, Act of July 31, 1968, P.L. 788, as amended through August 3, 1977, 35 P.S. Section 691.1 et. seq. (Purdons 1977) and regulations adopted thereunder.

(b) If Pennsylvania's regulatory program, including statutes and regulations in effect on August 3, 1977, for anthracite surface coal mining and reclamation operations are amended, the Secretary, upon receipt of a notice of amendment, shall issue additional regulations as necessary to meet the purposes of this Act.

(c) The thirteen acts, statutes, regulations and their amendments found in Section 820.11(a) of this Part are hereby incorporated by reference and are available in all OSM regional offices. These materials are incorporated as they exist on the adoption of this Part, and notices of changes in these materials will be published periodically in the Federal Register.

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PART 822-- SPECIAL PERMANENT PROGRAM PERFORMANCE STANDARDS-- OPERATIONS IN ALLUVIAL VALLEY FLOORS

Sec.

822.1 Scope.
822.2 Objectives.
822.11 Alluvial valley floors: Essential hydrologic functio
822.12 Alluvial valley floors: Farming and water quality.
822.13 Alluvial valley floors: Maintenance of agricultural u
822.14 Alluvial valley floors: Monitoring.

Authority : Sections 102, 201, 501, 503, 504, 506, 507, 508, 509, 510, 515, 516, 517, 519 and 701, Pub. L. 995-87, 91 Stat. 448, 449, 467, 470, 471, 473, 478, 480, 486, 495, 498, 516 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1256, 1257, 1258, 1259, 1260, 1265, 1266, 1267, 1291).

§822.1
Scope.

This Part sets forth additional requirements for surface coal mining and reclamation operations on or which affect alluvial valley floors in the arid and semi-arid regions of the country.

§822.2
Objectives.

This Part establishes the minimum environmental protection performance, reclamation and design standards, to preserve either the existing or potential agricultural uses and the productivity of alluvial valley floors during and after surface coal mining and reclamation operations.

§822.11
Alluvial valley floors: Essential hydrologic functions.

(a) Surface coal mining and reclamation operations shall be conducted to preserve, throughout the mining and reclamation process, the essential hydrologic functions of alluvial valley floors not within an affected area. These functions shall be preserved by maintaining those geologic, hydrologic and biologic characteristics that support those functions.

(b) Surface coal mining and reclamation operations shall be conducted to reestablish, throughout the mining and reclamation process, the essential hydrologic functions of alluvial valley floors within an affected area. These functions shall be reestablished by reconstructing those geologic, hydrologic and biologic characteristics that support those functions.

(c) The characteristics that support the essential hydrologic functions of alluvial valley floors are those in 30 CFR 785.19(d)(3) and those other geologic, hydrologic, or biologic characteristics identified during premining investigations or monitoring conducted during the surface coal mining and reclamation operation.

§822.12
Alluvial valley floors: Protection of farming and water suppli

(a) Surface coal mining and reclamation operations shall not interrupt, discontinue, or preclude farming on alluvial valley floors, unless--

(i) The premining land use is undeveloped rangeland which is not significant to farming; or

(ii) The area of affected alluvial valley floor is small and provides or may provide negligible support for production from one or more farms.

(b) If environmental monitoring shows that a surface coal mining operation is interrupting, discontinuing, or precluding farming on alluvial valley floors, the operation shall cease until remedial measures are taken by the person who conducts the operation. The remedial measures shall be approved by the regulatory authority prior to the resumption of mining.

(c) Surface coal mining and reclamation operations shall not cause material damage to the quality or quantity of water in surface or underground water systems that supply alluvial valley floors. If environmental monitoring shows that the surface coal mining operation is causing material damage to water that supplies alluvial valley floors, the mining operations shall cease until remedial measures are taken by the person who conducts the operation. The remedial measures shall be approved by the regulatory authority prior to the resumption of mining operations.

(d) Paragraphs (a) and (b) of this Section do not apply to those lands which were identified in a reclamation plan approved by the State prior to August 3, 1977 for any surface coal mining and reclamtion operation that, in the year preceeding August 3, 1977:

(1) Produced coal in commercial quantities and was located within or adjacent to an alluvial valley floor, or

(2) Obtained specific permit approval by the State regulatory authority to conduct surface coal mining and reclamation operations within an alluvial valley floor.

§822.13
Alluvial valley floors: Protection of agricultural uses.

Surface coal mining and reclamation operations shall be conducted to ensure that the agricultural utility and the level of productivity of alluvial valley floors in affected areas are reestablished.

§822.14
Alluvial valley floors: Monitoring.

(a) An environmental monitoring system shall be installed, maintained and operated by the permittee on all alluvial valley floors during surface coal mining and reclamation operations and continued until all bonds are released in accordance with 30 CFR 807. The monitoring system shall provide sufficient information to allow the regulatory authority to determine that:

(i) The agricultural utility and production of alluvial valley floors not within the affected area is being preserved;

(ii) The potential agricultural utility and production on the alluvial valley floor within the affected area has been reestablished;

(iii) The important characteristics supporting the essential hydrologic functions of alluvial valley floors in affected areas have been reestablished; and

(iv) the important characteristics supporting the essential hydrologic functions of alluvial valley floors in affected areas not affected are preserved during and after mining.

(b) Monitoring shall be performed at adequate frequencies, to indicate long term trends that could affect agricultural use of the alluvial valley floors.

(c) Monitoring shall be performed during operations, to identify characteristics of the alluvial valley floor not identified in the permit application and to evaluate the importance of all characteristics.

(d) All monitoring data collected and analyses thereof shall routinely be made available to the regulatory authority.

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PART 823 -- SPECIAL PERMANENT PROGRAM PERFORMANCE STANDARDS -- OPERATIONS ON PRIME FARMLAND

Sec.	
823.1	Scope.
823.2	Objective.
823.11	Prime farmland: Special requirements.
823.12	Prime farmland: Soil removal.
823.13	Prime farmland: Soil stockpiling.
823.14	Prime farmland: Soil replacement.
823.15	Prime farmland: Revegetation.

Authority: Sections 102, 201, 501, 503, 504, 506, 507, 508, 510, 515, 516, 517, 701 Pub. L. 95-87, 91 Stat. 448, 449, 467, 470, 471, 473, 478, 480, 486, 495, 498, 516 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1256, 1257, 1258, 1260, 1266, 1267, 1291).

§823.1
Scope.

This Part sets forth special environmental protection performance, reclamation, and design standards for surface coal mining and reclamation operations on prime farmland.

§823.2
Objective.

The objective of this Part is to set forth those soil removal, stockpiling, and replacement operational requirements and revegetation and other reclamation standards for prime farmlands to ensure both that the land will have agricultural productive capacity which is equal after mining to pre-mining levels and the land is not lost as an important national resource.

§823.11
Prime farmland: Special requirements.

Surface coal mining and reclamation operations conducted on prime farmland shall meet the following requirements:

(a) A permit shall be obtained for those operations under 30 CFR 785.17.

(b) Topsoil materials to be used in the reconstruction of the prime farmland topsoil shall be removed before drilling, blasting, or mining, in accordance with Section 823.12 and in a manner that prevents mixing or contaminating these materials with undesirable material. Where removal of soil materials results in erosion that may cause air and water pollution, the regulatory authority shall specify methods to control erosion of exposed overburden.

(c) Revegetation success on prime farmlands shall be measured upon the basis of a comparison of actual crop production from the disturbed area, compared to the predetermined target level of crop production approved by the regulatory authority in the permit in accordance with 30 CFR 785.17(d)(3).

§823.12
Prime farmland: Soil removal.

(a) Surface coal mining and reclamation operations on prime farmland shall be conducted to --

(1) Separately remove the entire A horizon or other suitable soil materials which will create a final soil having an equal or greater productive capacity than that which existed prior to mining.

(2) Separately remove the B horizon of the soil, a combination of B horizon and underlying C horizon, or other suitable soil material that will create a reconstructed soil of equal or greater productive capacity than that which existed before mining.

(3) Separately remove the underlying C horizons, other strata, or a combination of horizons or other strata, to be used instead of the B horizon. When replaced these combinations shall be equal to, or more favorable for plant growth, than the B horizon.

(b) The minimum depth of soil and soil material to be removed for use in reconstruction of prime farmland soils shall be sufficient to meet the soil replacement requirements of Section 823.14(a).

§823.13
Prime farmland: Soil stockpiling.

If not utilized immediately, the A horizon or other suitable soil materials specified in Section 823.12(a)(1) and the B horizon or other suitable soil materials specified in Sections 823.12(a)(2) and 823.12(a)(3) shall be stored separately from each other and from spoil. These stockpiles shall be placed within the permit area where they are not disturbed or exposed to excessive water or wind erosion before the stockpiled horizons can be redistributed. Stockpiles in place for more than 30 days shall meet the requirements of 30 CFR 816.23 or 817.23.

§823.14
Prime farmland: Soil Replacement

Surface coal mining and reclamation operations on prime farmland shall be conducted according to the following:

(a) The minimum depth of soil and soil material to be reconstructed for prime farmland shall be 48 inches, or to a depth equal to the depth of a subsurface horizon in the natural soil that inhibits root penetration, whichever is

shallower. The regulatory authority shall specify a depth greater than 48 inches, wherever necessary to restore productive capacity due to uniquely favorable soil horizons at greater depths. Soil horizons shall be considered as inhibiting root penetration if their densities, chemical properties, or water supplying capacities restrict or prevent penetration by roots of plants common to the vicinity of the permit area and have little or no beneficial effect on soil productive capacity.

(b) Replace soil material only on land which has been first returned to final grade and scarified according to 30 CFR 816.101-816.105 or 817.101-817.105 unless site specific evidence is provided and approved by the regulatory authority showing that scarification will not enhance the capability of the reconstructed soil to achieve equivalent or higher levels of yield.

(c) Replace the soil horizons or other suitable soil material in a manner that avoids excessive compaction. Compaction shall be considered excessive, if on more than 10 percent of the replacement area any layer of reconstructed soil has a moist bulk density of 0.1 gram per cubic centimeter more than the values stated in the approved permit application under 30 CFR 785.17(b)(3) for the equivalent layer of the undisturbed soil.

(d) Replace the B horizon or other suitable material specified in Sections 823.12 (a)(2) and (a)(3) to the thickness needed to meet the requirements of paragraph (a) of this Section.

(e) Replace the A horizon or other suitable soil materials, specified in Section 823.12(a)(1) as the final surface soil layer. This surface soil layer shall equal the thickness of the original soil, as determined in 30 CFR 785.17(c)(1), and be replaced in a manner that protects the surface layer from wind and water erosion before it is seeded or planted.

(f) Apply nutrients and soil amendments as needed to establish quick vegetative growth.

823.15
Revegetation.

Each person who conducts surface coal mining and reclamation operations on prime farmland shall meet the following revegetation requirements during reclamation:

(a) Following soil replacement, that person shall establish a vegetative cover capable of stabilizing the soil surface with respect to erosion. All vegetation shall be in compliance with the plan approved by the regulatory authority under 30 CFR 785.17 and carried out in a manner that encourages prompt vegetative cover and recovery of productive capacity. The timing and mulching provision of Sections 816.113-816.114 or 817.113-817.114 shall be met.

(b) Within a time period specified in the permit, but not to exceed 10 years after completion of backfilling and rough grading, any portion of the permit area which is prime farmland must be used for crops commonly grown, such as corn, soybeans, cotton, grain, hay, sorghum, wheat, oats, barley, or other crops on surrounding prime farmland. The crops may be grown in rotation with hay or pasture crops as defined for cropland. The regulatory authority may approve a crop use of perennial plants for hay, where this is a common long term use of prime farmland soils in the surrounding area. The level of management shall be equivalent to that on which the target yields are based.

(c) Measurement of success in prime farmland revegetation will be determined based upon the techniques approved in the permit by the regulatory authority under 30 CFR 785.17. As a minimum, the following standards shall be met:

(i) Average annual crop production shall be determined based upon a minimum of 3 years data. Crop production shall be measured for the three years immediately prior to release of bond according to 30 CFR 807.

(ii) Adjustment for weather induced variability in the annual mean crop production may be permitted by the regulatory authority.

(iii) Revegetation on prime farmland shall be considered a success when the adjusted 3 year average annual crop production is equivalent to, or higher than, the predetermined target level of crop production specified in the permit in accordance with 30 CFR 785.17(d)(3).

PART 824 -- SPECIAL PERMANENT PROGRAM PERFORMANCE STANDARDS -- MOUNTAINTOP REMOVAL

Sec.
824.1 Scope.
824.2 Objectives.
824.11 Mountaintop removal: Performance standards.

Authority : Sections 102, 201, 501, 503, 504, 506, 508, 510, 515, 517, 701 Pub. L. 95-87, 91 Stat. 448, 449, 467, 470, 471, 474, 478, 480, 486, 498, 516 (30 U.S.C. 1202, 1211, 1251, 1253, 1354, 1256, 1258, 1260, 1265, 1267, 1291).

§824.1
Scope

This Part sets forth special environmental protection performance, reclamation, and design standards for surface coal mining activities constituting mountaintop removal mining.

§824.2
Objectives.

The objectives of this Part are to --

(a) Enhance coal recovery;

(b) Reclaim the land to equal or higher postmining use; and

(c) Protect and enhance environmental and other values protected under the Act and this Chapter.

§824.11
Mountaintop removal: Performance standards.

(a) Under an approved regulatory program, surface coal mining activities may be conducted under a variance from the requirement of this Subchapter for restoring affected areas to their approximate original contour, if --

(1) The regulatory authority grants the variance under a permit, in accordance with 30 CFR 785.14;

(2) The activities involve the mining of an entire coal seam running through the upper fraction of a mountain, ridge, or hill, by removing all of the overburden and creating a level plateau or gently rolling contour with no highwalls remaining;

(3) An industrial, commercial, agricultural, residential, or public facility (including recreational facilities) use is proposed and approved for the affected land;

(4) The alternative land-use requirements of Section 816.133 are met;

(5) All applicable requirements of this Subchapter and the regulatory program, other than the requirement to restore affected areas to their approximate original contour, are met;

(6) An outcrop barrier of sufficient width, consisting of the toe of the lowest coal seam, and its associated overburden, are retained to prevent slides and erosion, except that the regulatory authority may permit an exemption to the retention of the coal barrier requirement if the following conditions are satisfied:

(i) The proposed mine site was mined prior to May 3, 1978, and the toe of the lowest seam has been removed; or

(ii) A coal barrier adjacent to a head-of-hollow fill may be removed after the elevation of a head-of-hollow fill attains the elevation of the coal barrier and if the head-of-hollow fill provides the stability otherwise ensured by the retention of a coal barrier;

(7) The final graded slopes on the mined area are less than 1 v :5 h, so as to create a level plateau or gently rolling configuration, and the outslopes of the plateau do not exceed 1 v :2 h except where engineering data substantiates, and the regulatory authority finds in the permit under 30 CFR 785.14 that a minimum static safety factor of 1.5 will be attained;

(8) The resulting level or gently rolling contour is graded to drain inward from the outslope, except at specific points where it drains over the outslope in stable and protected channels. The drainage shall not be through or over a valley or head-of-hollow fill.

(9) Natural watercourses below the lowest coal seam mined are not damaged.

(10) All waste and acid-forming or toxic-forming materials, including the strata immediately below the coal

seam are covered with non-toxic spoil to prevent pollution and achieve the approved post-mining land use; and

(11) Spoil is placed on the mountaintop bench as is necessary to achieve the post-mining land use approved under paragraphs (a)(3) and (a)(4) of this Section. All excess spoil material not retained on the mountaintop shall be placed in accordance with 30 CFR 816.52 and 816.71-816.74.

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PART 825 -- SPECIAL PERMANENT PROGRAM PERFORMANCE STANDARDS -- SPECIAL BITUMINOUS COAL MINES IN WYOMING

Sec.
825.1 Scope.
825.2 Objective.
825.11 Mines operating before January 1, 1972.
825.12 Mines developed after August 3, 1977.
825.13 Changes in Wyoming program.

Authority : Sections 102, 201, 501, 503, 504, 508, 510, 515, 527, 701 Pub. L. 95-87, 91 Stat. 448, 449, 467, 470, 471, 478, 480, 486, 513, 516 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1258, 1260, 1277, 1291).

§825.1
Scope.

(a) This Part sets forth special requirements for certain bituminous surface coal mining activities located west of the 100th meridian west longitude in Wyoming which existed on January 1, 1972, and for surface coal mining activities immediately adjacent thereto which began development after August 3, 1977, in accordance with Section 527 of the Act.

(b) Unless specifically modified by this Part, each performance standard of this Subchapter applies to these mines.

§825.2
Objective.

The objective of this Part is to minimize any adverse environmental effect of certain special bituminous coal mines located west of the 100th meridian west longitude in Wyoming, by--

(a) Providing special standards for onsite handling of spoil;

(b) Eliminating depressions capable of collecting water;

(c) Improving and regrading certain spoils outside the mine pit to approximate original contour; and

(d) Retention of certain stable highwalls.

§825.11
Mines operating before January 1, 1972.

(a) This Section applies to those portions of special bituminous coal mines, as defined in 30 CFR 701.5, which --

(1) Were approved for operation before January 1, 1972, including the orderly expansion of the mine pit to the extent authorized by State law;

(2) Have actually been producing coal since January 1, 1972;

(3) Are committed to a mode of operation that warrants an exception to some of the provisions of this Subchapter because of past duration of mining; and

(4) Involve the mining of more than one seam, and mining was initiated before August 3, 1977, on the deepest coal seam contemplated to be mined in the current operation.

(b) Operations subject to this Section shall, at a minimum, meet the general performance standards of this Subchapter for all operations conducted on the permit area outside the mine pit and for those operations associated with spoil storage areas. All the standards of this Subchapter apply to the mine pit except for requirements for backfilling and grading. Special requirements for backfilling and grading the mine pit area are as follows:

(1) In the final mine area, highwalls shall be allowed to remain if found to be stable by the regulatory authority.

(2) Benches may be constructed if approved by the regulatory authority in the approved mining plan.

(3) The exposed pit floors shall be sloped and graded to provide access to the area.

(4) Topsoil shall be replaced in accordance with 30 CFR 816.24.

(5) The floor of the pit shall be regraded and seeded according to the requirements of 30 CFR 816.102 and 816.111-816.117;

(6) Where water impoundments are included as part of the mine plan, riprap shall be used if necessary to prevent erosion.

(7) Spoil piles shall be graded and contoured, with no more than an overall slope of 17°, and terraces may be used to break the slope when it can be shown that terraces will comply with all applicable reclamation requirements. Steeper slopes may be permitted upon approval of the regulatory authority, if it has been demonstrated that such slopes will comply with all applicable reclamation requirements and are consistent with the approved postmining land use.

§825.12
Mines developed after August 3, 1977.

(a) This Section applies to those special bituminous coal mines, as defined in 30 CFR 701.5, which are developed after

August 3, 1977, on lands immediately adjacent to portions of mines subject to 30 CFR 825.11.

(b) Operations subject to this Section shall comply with all requirements of Wyoming law.

(c) Operations subject to this Section shall, at a minimum, meet the general requirements of this Subchapter for all operations conducted on the permit area outside the mine pit and for the operations associated with spoil storage areas. 30 CFR Part 816 applies to the mine pit, except for the requirements for backfilling and grading. Special requirements for backfilling and grading the mine pit area are as follows:

(1) Slope specifications for the postmining land use shall not exceed the average of the natural slopes measured in the immediate area of the minesite except in accordance with paragraph (c)(2) of this Section.

(i) Slopes steeper than the average of the natural slopes may be approved by the regulatory authority, if it can be demonstrated that returning the affected area to a slope equal to or less than the average natural slope would greatly increase the amount of disturbed land.

(ii) Measurements of individual slopes, locations at which measurements are made, and the average natural slope as determined from the individual slope measurements shall be submitted for approval to the regulatory authority in the permit application required under 30 CFR 785.12.

(2) For postmining land uses which do not include permanent water impoundments -

(i) The final mine area shall be backfilled, graded, and contoured to the extent necessary to return the land to the use approved by the regulatory authority in accordance with 30 CFR 816.133.

(ii) All backfilling, grading, and contouring shall preserve the original drainage system or provide substitute drainage systems approved by the regulatory authority.

(iii) Terraces or benches may be used only if it has been demonstrated to the regulatory authority that contouring methods do not provide the required results. Detailed plans of dimensions and design of the terraces or benches, check dams, erosion-prevention techniques, and slopes of the terraces or benches, and their intervals, shall have been approved by the regulatory authority before construction commences.

(iv) Depressions that will accumulate water shall not be allowed, unless they are approved under paragraph (c)(3) of this Section.

(3) For postmining land uses that include permanent water impoundments--

(i) The exposed mine pit area shall be sloped, graded, and contoured to blend with the topography of the surrounding terrain and to provide access to the area. Where necessary to prevent erosion, riprap shall be used.

(ii) If the person who conducts the surface mining activities demonstrates that the pitwall can be stabilized by terracing or other techniques, the regulatory authority may approve leaving the stabilized pitwall along one-half of the proposed impoundment shoreline, as measured along the circumference. The remaining part of the shoreline shall be graded and contoured to blend with the topography of the surrounding terrain and to provide access to the area. Detailed explanations of the techniques to be used to stabilize the pitwall shall have been approved by the regulatory authority before the impoundment is created.

§825.13
Changes in Wyoming program.

In the event of an amendment or revision to the State of Wyoming regulatory program, regulations, or decisions made thereunder, governing special bituminous coal mines, the Secretary shall issue additional regulations as necessary to meet the purposes of the Act.

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PART 826 -- SPECIAL PERMANENT PROGRAM PERFORMANCE STANDARDS -- OPERATIONS ON STEEP SLOPES

Sec.	
826.1	Scope.
826.2	Objective.
826.11	Applicability.
826.12	Steep slopes: Performance standards.
826.15	Steep slopes: Limited variances.
826.16	Steep slopes: Multiple seam.

Authority : Secs. 102, 201, 501, 503, 504, 508, 510, 515, 701 Pub. L. 95-87, 91 Stat. 448, 449, 467, 470, 471, 478, 480, 486, 516 (U.S.C. 1202, 1211, 1251, 1253, 1254, 1258, 1260, 1265, 1291).

§826.1
Scope.

This Part sets forth special, additional environmental protection performance, reclamation, and design standards for surface coal mining and reclamation operations conducted on steep slopes meaning any slope of 20° or more or as defined in Section 701.5.

§826.2
Objective.

The objective of this Part is to ensure adequate environmental protection during surface coal mining and reclamation operations on steep slopes.

§826.11
Applicability.

(a) Any surface coal mining and reclamation operations on steep slopes shall meet the requirements of this Part.

(b) The standards of this Part do not apply to mining conducted on a flat or gently rolling terrain with an occasional steep slope through which the mining proceeds and leaves a plain or predominatly flat area, or to operations covered by 30 CFR 824.

§826.12
Steep slopes: Performance standards.

Surface coal mining and reclamation operations subject to this Part shall comply with requirements of Subchapter G and the following, except to the extent a variance is approved under Section 826.15:

(a) (i) The person engaged in surface coal mining and reclamation operations shall prevent the following materials from being placed or allowed to remain on the downslope:
(A) Spoil;
(B) Waste materials, including waste mineral matter;
(C) Debris, including that from clearing and grubbing of haul road construction; and
(D) Abandoned or disabled equipment;
(ii) Nothing in this subsection shall prohibit the placement of material in road embankments located on the downslope, so long as the material used and embankment design comply with the requirements of 30 CFR 816.150-816.180 or 817.150-817.180 and the material is moved and placed in a controlled manner.

(b) The highwall shall be completely covered with compacted spoil and the disturbed area graded to comply with the provisions of 30 CFR 816.101-816.106 and 30 CFR 817.101-817.106, including, but not limited to, the return of the site to the approximate original contour. The person who conducts the surface coal mining and reclamation operation must demonstrate to the regulatory authority, using standard geotechnical analysis, that the minimum static factor of safety for the stability of all portions of the reclaimed land is at least 1.3.

(c) Land above the highwall shall not be disturbed, unless the regulatory authority finds that the disturbance facilitates compliance with the requirements of this Part.

(d) Material in excess of that required by the grading and backfilling provisions of paragraph (b) of this Section shall be disposed of in accordance with the requirements of 30 CFR 816.71-816.74 or 817.71-817.73.

(e) Woody materials shall not be buried in the backfilled area unless the regulatory authority determines that the proposed method for placing woody material beneath the highwall will not deteriorate the stable condition of the backfilled area as required in Section 826.12(b). Woody materials may be chipped and distributed over the surface of the backfill as mulch, if special provision is made for their use and approved by the regulatory authority.

(f) Unlined or unprotected drainage channels shall not be constructed on backfills unless approved by the regulatory authority as stable and not subject to erosion.

§826.15
Steep slopes: Limited variances

Under every Federal program or any approved State program which includes appropriate procedures, persons may be granted variances from the approximate original contour requirements of Section 826.12(b) for steep slope surface coal mining and reclamation operations, if the following standards are met and a permit incorporating the variance is approved in a permit under 30 CFR 785.16:

(a) The highwall shall be completely backfilled with spoil material, in a manner which results in a static factor of safety of at least 1.3 using standard geotechnical analyses.

(b) The watershed control of the area within which the mining occurs shall be improved by reducing the peak flow from precipitation or thaw and reducing the total suspended solids or other pollutants in the surface water discharge during precipitation or thaw. The total volume of flow during every season of the year shall not vary in a way that adversely affects the ecology of any surface water or any existing or planned public or private use of surface or ground water.

(c) Land above the highwall may be disturbed only to the extent that the regulatory authority deems appropriate and approves as necessary to facilitate compliance with the provisions of this Part and if the regulatory authority finds that the disturbance is necessary to--

(1) Blend the solid highwall and the backfilled material;

(2) Control surface runoff; or

(3) Provide access to the area above the highwall.

(d) The landowner of the permit area has requested, in writing, as part of the permit application under 30 CFR 785.16, that the variance be granted.

(e) The operations are conducted in full compliance with a permit issued in accordance with 30 CFR 785.16.

(f) Only the amount of spoil as is necessary to achieve the postmining land use, ensure the stability of spoil retained on the bench, and meet all other requirements of the Act and this Chapter shall be placed off the mine bench. All spoil not retained on the bench shall be placed in accordance with 30 CFR 816.71-816.74, or 817.71-817.73 and 30 CFR 816.101-102 or 817.101-817.102.

826.16
Steep slopes: Multiple seam

In multiple-seam steep slope affected areas, spoil not required to reclaim and restore the permit area may be placed on a preexisting bench, if approved by the regulatory authority and if the following requirements are met:

(a) All excess spoil must be hauled, placed, and retained on the solid bench.
(b) The spoil must be graded to the most moderate slope so as to eliminate the existing highwall to the extent possible with the available spoil.
(c) The fill must comply with 30 CFR 816.71 or 817.73 and the other requirements of this Subchapter.
(d) The bench on which the spoil is to be placed must have been created and abandoned due to coal mining prior to August 3, 1977.

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PART 827 -- SPECIAL PERMANENT PROGRAM PERFORMANCE STANDARDS -- COAL PROCESSING PLANTS AND SUPPORT FACILITIES NOT LOCATED WITHIN THE PERMIT AREA FOR A MINE

Sec.
827.1 Scope.
827.11 Applicability.
827.12 Coal processing plants: Performance standards.

Authority: Secs. 102, 201, 501, 503, 504, 508, 510, 515, 517, 701 Pub. L. 95-87, 91 Stat. 448, 449, 467, 470, 471, 479, 480, 486, 498, 516 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1258, 1260, 1265, 1267, 1291).

§827.1
Scope.

This Part sets forth requirements for coal processing plants and their support facilities not located within the permit area for a mine, to ensure the protection of public property and the environment, in accordance with the Act.

§827.11
Applicability.

Each person who conducts surface coal mining and reclamation operations, which includes the operation of a coal processing plant or support facility which is not located within the permit area for a specific mine, shall obtain a permit in accordance with 30 CFR 785.21 to conduct those operations and comply with Section 827.12.

§827.12
Coal processing plants: Performance standards.

Construction, operation, maintenance, modification, reclamation, and removal activities at operations covered by this Part shall comply with the following:

(a) Signs and markers for the coal processing plant, coal processing waste disposal area, and water treatment facilities shall comply with 30 CFR 816.11.

(b) Roads, transport, and associated structures shall be constructed, maintained, and reclaimed in accordance with 30 CFR 816.150-816.181.

(c) Any stream or channel realignment shall comply with 30 CFR 816.44.

(d) If required by the regulatory authority any disturbed area related to the coal processing plant or associated facilities shall have sediment control structures, in compliance with 30 CFR 816.45 and 816.46, and all discharges from these areas shall meet the requirements of 30 CFR 816.41-816.42 and any other applicable State or Federal law.

(e) Permanent impoundments associated with coal processing plants shall meet the requirements of 30 CFR 816.49 and 816.56. Dams constructed of or impounding coal processing waste shall comply with 30 CFR 816.91-816.93.

(f) Use of water wells shall comply with 30 CFR 816.53 and water rights shall be protected in accordance with 30 CFR 816.54.

(g) Disposal of coal processing waste, solid waste, and any excavated materials shall comply with 30 CFR 816.81-816.88, 816.89, and 816.71-816.73, respectively.

(h) Discharge structures for diversions and sediment control structures shall comply with 30 CFR 816.47.

(i) Air pollution control measures associated with fugitive dust emissions shall comply with 30 CFR 816.95.

(j) Fish, wildlife and related environmental values shall be protected in accordance with 30 CFR 816.97.

(k) Slide areas and other surface areas shall comply with 30 CFR 816.99.

(l) Adverse effects upon or resulting from nearby underground coal mining activities shall be minimized by appropriate measures, including, but not limited to compliance with 30 CFR 816.55 and 816.79.

(m) Reclamation shall include proper topsoil handling procedures, revegetation, and abandonment, in accordance with 30 CFR 816.56, 816.100-816.106, 816.111-816.117, and 816.131-816.133.

(n) Conveyors, buildings, storage bins or stockpiles, water treatment facilities, water storage facilities, and any structure or system related to the coal processing plant shall comply with 30 CFR 816.

(o) Any coal processing plant or associated structures located on prime farmland shall meet the requirements of 30 CFR 823.

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PART 828 -- SPECIAL PERMANENT PROGRAM PERFORMANCE STANDARDS -- IN SITU PROCESSING

Sec.
828.1 Scope.
828.2 Objectives.
828.11 In situ processing: Performance standards.

828.12 In situ processing: Monitoring.

Authority: Secs. 102, 201, 501, 503, 504, 510, 515, 517, 701; Pub. L. 95-87, 91 Stat. 448, 449, 467, 470, 471, 480, 486, 498, 516 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1260, 1265, 1267, 1291).

§828.1
Scope.

This Part sets forth special environmental protection performance, reclamation and design standards for in situ processing activities.

§828.2
Objectives.

This Part is intended to ensure that all in situ processing activities are conducted in a manner which preserves and enhances environmental values in accordance with the Act. This Part provides additional performance, reclamation and design standards to reflect the nature of in situ processing.

§828.11
In situ processing: Performance standards.

(a) The person who conducts in situ processing activities shall comply with 30 CFR Part 817 and this Section.

(b) In situ processing activities shall be planned and conducted to minimize disturbance to the prevailing hydrologic balance by:

(1) Avoiding discharge of fluids into holes or wells, other than as approved by the regulatory authority;

(2) Injecting process recovery fluids only into geologic zones or intervals approved as production zones by the regulatory authority;

(3) Avoiding annular injection between the wall of the drill hole and the casing; and

(4) Preventing discharge of process fluid into surface waters.

(c) Each person who conducts in situ processing activities shall submit for approval as part of the application for permit under 30 CFR 785.22, and follow after approval, a plan that ensures that all acid-forming, toxic-forming, or radioactive gases, solids, or liquids constituting a fire, health, safety, or environmental hazard and caused by the mining and recovery process are promptly treated, confined, or disposed of, in a manner that prevents contamination of ground and surface waters, damage to fish, wildlife and related environmental values, and threats to the public health and safety.

(d) Each person who conducts in situ processing activities shall prevent flow of the process recovery fluid:

(1) Horizontally beyond the affected area identified in the permit; and

(2) Vertically into overlying or underlying aquifers.

(e) Each person who conducts in situ processing activities shall restore the quality of affected ground water in the mine plan and adjacent area, including ground water above and below the production zone, to the approximate premining levels or better, to ensure that the potential for use of the ground water is not diminished.

§828.12
In-situ processing: Monitoring.

(a) Each person who conducts in situ processing activities shall monitor the quality and quantity of surface and ground water and the subsurface flow and storage characteristics, in a manner approved by the regulatory authority under 30 CFR 817.52, to measure changes in the quantity and quality of water in surface and ground water systems in the mine plan and in adjacent areas.

(b) Air and water quality monitoring shall be conducted in accordance with monitoring programs approved by the regulatory authority as necessary according to appropriate Federal and State air and water quality standards.

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PART 840 -- STATE REGULATORY AUTHORITY INSPECTION AND ENFORCEM

Sec.
840.1 Scope.
840.11 Inspections by State regulatory authority.
840.12 Right of entry.
840.13 Enforcement authority.
840.14 Availability of records.

Authority: Secs. 102, 201, 501(b), 503, 512, 517, 518, 521, and 523 of Pub. L. 95-87, 91 Stat. 448, 449, 468, 470, 483, 498, 499, 504, 510 (30 U.S.C. 1202, 1211, 1251, 1253, 1262, 1267, 1268, 1271, 1273).

§840.1
Scope.

This Part sets forth the minimum requirements for the Secretary's approval of provisions for inspection and enforcement by a State of surface coal mining and reclamation operations and of coal explorations which substantially disturb the natural land surface, where a State is the regulatory authority under a State program.

§840.11
Inspections by State regulatory authority.

(a) The State regulatory authority shall conduct an average of at least one partial inspection per month of each surface coal mining and reclamation operation under its jurisdiction. A partial inspection is an onsite review of a person's compliance with some of the permit conditions and requirements imposed under the State program. The inspector shall collect evidence of any violation of those conditions or requirements observed.

(b) The State regulatory authority shall conduct an average of at least one complete inspection per calendar quarter of each surface coal mining and reclamation operation under its jurisdiction. A complete inspection is an onsite review of a person's compliance with all permit conditions and requirements imposed under the State program, within the entire area disturbed or affected by surface coal mining and reclamation operations. This includes collection of evidence with respect to every violation of those conditions or requirements.

(c) The State regulatory authority shall conduct periodic inspections of all coal exploration operations, including operations required under 30 CFR 776.11 to comply with 30 CFR Part 815. Such inspections shall include the collection of evidence with respect to every violation of any condition of the exploration approval or any requirement of the State program or 30 CFR Part 815.

(d) The inspections required under paragraphs (a), (b) and (c) of this section shall:

(1) Be carried out on an irregular basis, so as to monitor compliance at all operations, including those which operate nights, weekends, or holidays;

(2) Occur without prior notice to the person being inspected or any agent or employee of such person, except for necessary on-site meetings; and

(3) Include the prompt filing of inspection reports adequate to enforce the requirements of and to carry out the terms and purposes of the State program, the Act, this Chapter, the exploration approval and the permit.

§840.12
Right of entry.

(a) Within its jurisdiction, the State regulatory authority shall have statutory authority that grants its representatives a right of entry to, upon, and through any coal exploration or surface coal mining and reclamation operation without advance notice or search warrant, upon presentation of appropriate credentials.

(b) The State regulatory authority shall have statutory authority that authorizes its representatives to inspect any monitoring equipment or method of exploration or operation and to have access to and copy any records required under the Act, this Chapter, the State program, the exploration approval, or the permit. This statutory authority shall provide that the representatives may exercise such rights at reasonable times, without advance notice, upon presentation of appropriate credentials. No search warrant shall be required except with respect to entry into a building without consent of the person in control of the building.

§840.13
Enforcement authority.

(a) The civil and criminal penalty provisions of each State program shall contain penalties which are no less stringent than those set forth in Section 518 of the Act and shall be consistent with 30 CFR 845.

(b) The enforcement provisions of each State program shall contain sanctions no less stringent than those set forth in Section 521 of the Act and shall be consistent with 30 CFR 808, 843.11, 843.12, 843.13, 843.19, and Subchapter G of this Chapter.

(c) The procedural requirements of each State program relating to the penalties and sanctions mentioned in paragraphs (a) and (b) of this Section shall be the same as or similar to those provided in Sections 518 and 521 of the Act, respectively, and shall be consistent with those provided in 30 CFR 808, 843, 845, and Subchapter G of this Chapter.

(d) Nothing in the Act or this Part shall be construed as eliminating any additional enforcement rights or procedures which are available under State law to a State regulatory authority but which are not specifically enumerated in Section 518 and Section 521 of the Act.

§840.14
Availability of records.

(a) Each State regulatory authority shall make available to the Director and the Regional Director, upon request, copies of all documents relating to applications for and approvals of existing, new, or revised coal exploration approvals or permits for surface coal mining and reclamation operations and all documents relating to inspection and enforcement actions.

(b) Except as provided in 30 CFR 776.17 and 786.15 and paragraph (c) of this Section, copies of all records, reports, inspection materials, or information obtained by the State under a State program shall be made immediately available to the public in the area of mining so that they are conveniently available to residents of that area.

(c) In order to protect preparation for hearings and enforcement proceedings, the Director and the State regulatory authority may enter into agreements regarding procedures for the special handling of investigative and enforcement reports and other materials.

PART 842 -- FEDERAL INSPECTIONS

Sec.
842.1 Scope.
842.11 Federal inspections.
842.12 Citizens' requests for Federal inspections.
842.13 Right of entry.
842.14 Review of adequacy and completeness of inspections.
842.15 Review of decision not to inspect or enforce.
842.16 Availability of records.

Authority: Secs. 102, 201, 501(b), 504, 507, 517, 518, 521 and 523 of Pub. L. 95-87, 91 Stat. 448, 449, 468, 471, 474, 498, 499, 504, 510 (30 U.S.C. 1202, 1211, 1251, 1254, 1257, 1267, 1268, 1271, 1273).

§842.1
Scope.

This Part sets forth general procedures governing Federal inspections under the permanent regulatory program.

§842.11
Federal inspections.

(a) Authorized representatives of the Secretary shall conduct inspections of surface coal mining and reclamation operations as necessary:

(1) To evaluate the administration of approved State programs;

(2) To develop or enforce Federal programs and Federal lands programs;

(3) To enforce those requirements and permit conditions imposed under a State program not being enforced by a State, under Section 504(b) or Section 521(b) of the Act, 30 CFR 733, or as provided in this Section.

(4) To determine whether any notice of violation or cessation order issued during an inspection authorized under this section have been complied with.

(b)(1) An authorized representative of the Secretary shall immediately conduct a Federal inspection to enforce any requirement of the Act, this Chapter, any State, Federal, or Federal lands program, or any condition of an exploration approval or permit imposed under the Act, this Chapter, or such program:

(i) When the authorized representative has reason to believe, on the basis of information available to him or her (other than information resulting from a previous Federal inspection) that a violation of the Act, this Chapter, the applicable program, or exploration approval or permit conditions exists, or that there exists any condition, practice or violation which creates an imminent danger to the health or safety of the public or is causing or can reasonably be expected to cause a significant, imminent environmental harm to land, air or water sources and

(ii)(A) There is no State regulatory authority or the Office is enforcing the State program under Section 504(b) or Section 521(b) of the Act and 30 CFR 733; or

(B) The authorized representative has notified the State regulatory authority of the possible violation and within 10 days after notification the State regulatory authority has failed to take appropriate action to have the condition, practice or violation abated and to inform the authorized representative that it has taken such action or has a valid reason for its inaction; or

(C) The person supplying the information provides adequate proof that an imminent danger to the public health and safety or a significant, imminent environmental harm to land, air or water resources exists and that the State regulatory authority has failed to take appropriate action.

(1) The Office, when acting as the regulatory authority under a Federal program or a Federal lands program and when enforcing a State program, in whole or in part, pursuant to Section 504(b) or Section 521(b) of the Act and 30 CFR 733, shall conduct inspections of all coal exploration and surface coal mining and reclamation operations under its jurisdiction. These inspections shall average at least:

(2) An authorized representative has reason to believe that a violation, condition or practice exists if the facts alleged by the informant would, if true, constitute a condition, practice or violation referred to in paragraph (1)(i), unless the authorized representative reasonably believes that such facts are not true.

(3) One partial inspection per month of each surface coal mining and reclamation operation. A partial inspection is an onsite review of a person's compliance with some of the permit conditions and requirements imposed under the applicable program, during which the inspector collects evidence with respect to every violation of any such condition or requirement observed;

(4) One complete inspection per calendar quarter of each surface coal mining and reclamation operation. A complete inspection is an onsite review of a person's compliance with all permit conditions and requirements imposed under the applicable program within the entire area disturbed or affected by surface coal mining and reclamation operations, including the collection of evidence with respect to every violation of any such condition or requirement; and

(5) Periodic inspections of all coal exploration operations required to comply with the Act, this Chapter, or the applicable program, including the collection of evidence with respect to every violation of any condition of the exploration approval or requirement of the applicable program or 30 CFR Part 815.

(d) The inspections required under paragraph (c) shall --

(1) Be carried out on an irregular basis so as to monitor compliance at all operations, including those which operate nights, weekends, or holidays;

(2) Occur without prior notice to the person being inspected or any of his agents or employees, except for necessary onsite meetings; and

(3) Include the prompt filing of inspection reports adequate to enforce the requirements of and to carry out the terms and purposes of the applicable program, any permit condition imposed under such program, this Chapter and the Act.

§842.12

Citizens' requests for Federal inspections.

(a) A citizen may request a Federal inspection under 30 CFR 842.11(b), by furnishing to an authorized representative of the Secretary a signed, written statement (or an oral report followed by a signed, written statement), giving the authorized representative reason to believe that a violation, condition, or practice referred to in 30 CFR 842.11(b)(1)(i) exists and setting forth a phone number or address where the citizen can be contacted.

(b) The identity of any person supplying information to the Office relating to a possible violation or imminent danger or harm shall remain confidential with the Office, if requested by that person, unless that person elects to accompany the inspector on the inspection, or unless disclosure is required under the Freedom of Information Act (5 U.S.C. Section 552) or other Federal law;

(c) If a Federal inspection is conducted as a result of information provided to the Office by a citizen as described in paragraph (a) of this section, the citizen shall be notified as far in advance as practicable when the inspection is to occur and shall be allowed to accompany the authorized representative of the Secretary during the inspection. Such person has a right of entry to, upon and through the surface coal mining and reclamation operations about which he or she supplied information, but only if he or she is in the presence of and is under the control, direction and supervision of the authorized representative while on the mine property. Such right of entry does not include a right to enter buildings without consent of the person in control of the building.

(d) Within 10 days of the Federal inspection, or, if there is no inspection, within 15 days of receipt of the citizen's written statement, the Office shall send the citizen the following:

(1) If an inspection was made, a description of the enforcement action taken, which may consist of copies of the Federal inspection report and all notices of violation and cessation orders issued as a result of the inspection or an explanation of why no enforcement action was taken;

(2) If no Federal inspection was conducted, an explanation of the reason why; and

(3) An explanation of the citizen's right, if any, to informal review of the action or inaction of the Office under 30 CFR 842.15.

(e) The Office shall give copies of all materials in paragraphs (d)(1) and (2) of this Section within the time limits specified in those paragraphs to the person charged in the request, except that the name of the citizen shall be removed unless disclosure of the citizen's identity is permitted under paragraph (b) of this Section.

§842.13
Right of entry.

(a) Each authorized representative of the Secretary conducting a Federal inspection under 30 CFR 842.11:

(1) Shall have a right of entry to, upon, and through any coal exploration or surface coal mining and reclamation operation, without advance notice or a search warrant, upon presentation of appropriate credentials; and

(2) May, at reasonable times and without delay, have access to and copy any records, and inspect any monitoring equipment or method of operation, required under the Act, this Chapter, the applicable program or any condition of an exploration approval or permit imposed under the Act, this Chapter, or the applicable program.

(b) No search warrant shall be required with respect to any activity under Paragraph (a) except entry into a building without consent of the person in control of the building.

§842.14
Review of adequacy and completeness of inspections.

Any person who is or may be adversely affected by a surface coal mining and reclamation operation or a coal exploration operation may notify the Regional Director in writing of any alleged failure on the part of the Office to make adequate and complete or periodic Federal inspections as provided in 30 CFR 842.11(c) and (d). The notification shall include sufficient information to create a reasonable belief that 30 CFR 842.11(c) and (d) are not being complied with and to demonstrate the person is or may be adversely affected. The Regional Director shall within 15 days of receipt of the notification determine whether 30 CFR 842.11(c) and (d) are being complied with, and if not, shall immediately order a Federal inspection to remedy the noncompliance. The Regional Director shall also furnish the complainant with a written statement of the reasons for such determination and the actions, if any, taken to remedy the noncompliance.

§842.15
Review of decision not to inspect or enforce.

(a) Any person who is or may be adversely affected by a coal exploration or surface coal mining and reclamation operation may ask the Regional Director to review informally an authorized representative's decision not to inspect or take appropriate enforcement action, with respect to any violation alleged by that person in a request for Federal inspection under Section 842.12. The request for review shall be in writing and include a statement of how the person is or may be adversely affected and why the decision merits review.

(b) The Regional Director shall conduct the review and inform the person, in writing, of the results of the review within 30 days of his or her receipt of the request. The person charged in the request shall also be given a copy of the results of the review, except that the name of the citizen shall not be disclosed unless confidentiality has been waived or disclosure is required under the Freedom of Information Act or other Federal law.

(c) Informal review under this Section shall not affect any right to formal review under Section 525 of the Act or to a citizen's suit under Section 520 of the Act.

§842.16
Availability of records.

(a) Copies of all records, reports, inspection materials, or information obtained by the Office under Title V of the Act, this Chapter, a Federal program or Federal lands program, a State program being enforced by the Office under Sections 504(b) or 521(b) of the Act and 30 CFR 733, or 30 CFR 842.11 or 842.12 shall be made immediately available to the public in the area of mining so that they are conveniently available to residents of that area except that the Office may refuse to make available--

(1) Investigatory records compiled for law enforcement purposes to the extent provided in the Freedom of Information Act (5 U.S.C. Section 552(b)) and

(2) Information not required to be made available under 30 CFR 776.17, 786.15 or 840.14(c).

(b) Copies of documents mentioned in paragraph (a) shall be provided to the State regulatory authority, if any.

PART 843 -- FEDERAL ENFORCEMENT

Sec.

843.1 Scope.
843.11 Cessation orders.
843.12 Notices of violation.
843.13 Suspension or revocation of permits.
843.14 Service of notices of violation and cessation orders.
843.15 Informal mine site hearing.
843.16 Formal review of citations.
843.17 Failure to give notice and lack of reasonable relief.
843.18 Inability to comply.
843.19 Injunctive relief.

Authority: Secs. 102, 201, 501(b), 503, 504, 510, 517, 518, 521, 523, 525 and 701 of Pub. L. 95-87, 91 Stat. 448, 449, 468, 470, 471, 480, 498, 499, 504, 510, 511, and 516 (30 U.S.C. 1202, 1211, 1251, 1253, 1254, 1260, 1267, 1268, 1271, 1273, 1275, and 1291).

§843.1
Scope.

This Part sets forth general rules regarding enforcement by the Office of the Act, this Chapter, any Federal program, the Federal lands program, State programs being enforced by the Office under Section 504(b) or 521(b) of the Act and 30 CFR 733 and (in limited circumstances), under 30 CFR 842.11 or 842.12, and all conditions of coal exploration approval, and permits imposed under any of these programs, the Act, or this Chapter. Civil penalties in connection with notices of violation and cessation orders issued under this Part are set forth in 30 CFR 845.

§843.11

Cessation orders.

(a)(1) An authorized representative of the Secretary shall immediately order a cessation of surface coal mining and reclamation operations or of the relevant portion, if he finds, on the basis of any Federal inspection, any condition, practice, or violation of the Act, this Chapter, any applicable program, or any exploration approval condition or permit condition imposed under any such program, the Act, or this Chapter, which:

(i) Creates an imminent danger to the health or safety of the public; or

(ii) Is causing or can reasonably be expected to cause significant, imminent environmental harm to land, air, or water resources.

(2) If the cessation ordered under paragraph (a)(1) of this Section will not completely abate the imminent danger or harm in the most expeditious manner physically possible, the authorized representative of the Secretary shall impose affirmative obligations on the person to whom it is issued to abate the condition, practice, or violation. The order shall specify the time by which abatement shall be accomplished and may require, among other things, the use of existing or additional personnel and equipment.

(b)(1) An authorized representative of the Secretary shall immediately order a cessation of coal exploration or surface coal mining and reclamation operations, or of the relevant portion, when a notice of violation has been issued under 30 CFR 843.12(a) and the person to whom it was issued fails to abate the violation within the abatement period fixed or subsequently extended by the authorized representative.

(2) A cessation order issued under this paragraph shall require the person to whom it is issued to take all steps the authorized representative of the Secretary deems necessary to abate the violations covered by the order in the most expeditious manner physically possible.

(c) A cessation order issued under paragraphs (a) or (b) of this Section shall be in writing, signed by the authorized representative who issues it, and shall set forth with reasonable specificity: (1) the nature of the violation; (2) the remedial action or affirmative obligation required, if any including interim steps, if appropriate, (3) the time established for abatement if appropriate, including the time for meeting any interim steps; and (4) a reasonable description of the coal exploration or portion of the surface coal mining and reclamation operations to which it applies. The order shall remain in effect until the condition, practice or violation has been abated or until vacated, modified or terminated in writing by an authorized representative of the Secretary.

(d) Reclamation operations and other activities intended to protect public health and safety and the environment shall continue during the period of any order unless otherwise provided in the order.

(e) An authorized representative of the Secretary may modify, terminate or vacate a cessation order for good cause, and may extend the time for abatement if the failure to abate within the time previously set was not caused by lack of diligence on the part of the person to whom it was issued.

(f) An authorized representative of the Secretary shall terminate a cessation order, by written notice to the person to whom the order was issued, when he determines that all conditions, practices or violations listed in the order have been abated. Termination shall not affect the right of the Office to assess civil penalties for those violations under 30 CFR 845.

§843.12
Notices of violation.

(a) (1) An authorized representative of the Secretary shall issue a notice of violation if, on the basis of a Federal inspection carried out during the enforcement of a Federal program or Federal lands program or during Federal enforcement of a State program under Sections 504(b) or 521(b) of the Act and 30 CFR 733, he finds a violation of the Act, this Chapter, the applicable program, or any condition of an exploration approval or permit imposed under such program, the Act, or this Chapter, which does not create an imminent danger or harm for which a cessation order must be issued under 30 CFR 843.11.

(a) (2) When, on the basis of any Federal inspection other than one described in subsection (a) (1), an authorized representative of the Secretary determines that there exists a violation of the Act, the State program, or any condition of an exploration approval or permit required by the Act or the State program which does not create an imminent danger or harm for which a cessation order must be issued under 30 CFR 843.11, the authorized representative shall give written notice of the violation to the State and the person responsible for the violation, so that appropriate enforcement action can be taken by the State. Where the State fails within ten days after notification to take appropriate action to cause the violation to be corrected, or to show good cause for such failure, the authorized representative shall reinspect and, if the violation continues to exist, shall issue a notice of violation or cessation order, as appropriate. No additional notification to the State by the Office is required before the issuance of a notice of violation if previous notification was given under 30 CFR 842.11(b) (1) (ii) (B).

(b) A notice of violation issued under this Section shall be in writing, signed by the authorized representative who issues it, and shall set forth with reasonable specificity:

(1) The nature of the violation;

(2) The remedial action required, which may include interim steps;

(3) A reasonable time for abatement which may include time for accomplishment of interim steps; and

(4) A reasonable description of the coal exploration or the portion of the surface coal mining and reclamation operation to which it applies.

(c) An authorized representative of the Secretary may extend the time set for abatement or for accomplishment of an interim step if the failure to meet the time previously set was not caused by lack of diligence on the part of the person to whom it was issued. The total time for abatement under a notice of violation, including all extensions, shall not exceed 90 days from the date of issuance.

(d) If the person to whom the notice was issued fails to meet any time set for abatement or for accomplishment of an interim step, the authorized representative shall issue a cessation order under 30 CFR 843.11(b).

(e) An authorized representative of the Secretary shall terminate a notice of violation by written notice to the person to whom it was issued, when he determines that all violations listed in the notice of violation have been abated. Termination shall not affect the right of the Office to assess civil penalties for those violations under 30 CFR Part 845 (civil penalties).

§843.13
Suspension or revocation of permits.

(a) (1) Except as provided in paragraph (b) of this section, the Director shall issue an order to a permittee requiring him to show cause why his permit and right to mine under the Act should not be suspended or revoked, if the Director determines that a pattern of violations of any requirements of the Act, this Chapter, the applicable program, or any permit condition required by this Act exists or has existed, and that the violations were caused by the permittee willfully or through unwarranted failure to comply with those requirements or conditions. Willful violation means an act or omission which violates the Act, this Chapter, the applicable program, or any permit condition required by the Act or the applicable program, committed by a person who intends the result which actually occurs. Unwarranted failure to comply means the failure of the permittee to prevent the occurrence of any violation of the permit or any requirement of the Act, or the failure to abate any violation of such permit or the Act due to indifference, lack of diligence, or lack of reasonable care. Violations by any person conducting surface coal mining operations on behalf of the permittee shall be attributed to the permittee, unless the permittee establishes that they were acts of deliberate sabotage.

(2) The Director may determine that a pattern of violations exists or has existed, based on two or more Federal inspections of the permit area within any 12-month period, after considering the circumstances, including:

(i) The number of violations, on more than one occasion, of the same or related requirements of the Act, this Chapter, the applicable program or the permit;

(ii) The number of violations, on more than one occasion, of different requirements of the Act, this Chapter, the applicable program, or the permit; and

(iii) The extent to which the violations were isolated departures from lawful conduct.

(3) The Director shall determine that a pattern of violations exists, if he finds that there were violations of the same or related requirements of the Act, this Chapter, the applicable program, or the permit during three or more Federal inspections of the permit area within any 12-month period.

(4) In determining the number of violations within any 12-month period, the Director shall consider only violations issued as a result of a Federal inspection carried out

(i) During enforcement of a Federal program or a Federal lands program;

(ii) During the interim program and before the applicable State program was approved, pursuant to Section 502 or 504 of the Act; or

(iii) During Federal enforcement of a State program in accordance with Section 504(b) or Section 521(b) of the Act;

provided that the Director may consider violations issued as a result of other inspections in determining whether to exercise his discretion under paragraph (2).

(b) The Director may decline to issue a show cause order, or may vacate an outstanding show cause order, if he finds that, taking into account exceptional factors present in the particular case, it would be demonstrably unjust to issue or to fail to vacate the show cause order. The basis for this finding shall be fully explained and documented in the records of case.

(c) At the same time as the issuance of the order, the Director shall:

(1) File a copy of the order to show cause with the Office of Hearings and Appeals and the State regulatory authority, if any;

(2) If practicable, publish notice of the order, including a brief statement of the procedure for intervention in the proceeding, in a newspaper of general circulation in the area of the surface coal mining and reclamation operations; and

(3) Post the notice at the regional, district or field office closest to the area of the surface coal mining and reclamation operations.

(d) If the permittee files an answer to the show cause order and requests a hearing under 43 CFR Part 4, a public hearing shall be provided as set forth in that Part. The Office of Hearings and Appeals shall give thirty days' written notice of the date, time and place of the hearing to the Director, the permittee, the State regulatory authority, if any, and any intervenor. Upon receipt of the notice the Director shall publish it, if practicable, in a newspaper of general circulation in the area of the surface coal mining and reclamation operations, and shall post it at the Regional, district or field office closest to those operations.

(e) Within sixty days after the hearing, and within the time limits set forth in 43 CFR Part 4, the Secretary shall issue a written determination as to whether a pattern of violations exists and, if appropriate, an order. If the Office of Hearings and Appeals revokes or suspends the permit and the permittee's right to mine under the Act, the permittee shall immediately cease surface coal mining operations on the permit area and shall:

(1) If the permit and the right to mine under the Act are revoked, complete reclamation within the time specified in the order; or

(2) If the permit and the right to mine under the Act are suspended, complete all affirmative obligations to abate all conditions, practices or violations, as specified in the order.

§843.14
Service of notices of violation and cessation orders.

(a) A notice of violation or cessation order shall be served on the person to whom it is directed or his designated agent promptly after issuance, as follows:

(1) By tendering a copy at the coal exploration or surface coal mining and reclamation operations site to the designated agent or to the individual who, based upon reasonable inquiry by the authorized representative, appears to be in charge of the coal exploration or surface coal mining or reclamation operations referred to in the notice or order. If no such individual can be located at the site, a copy may be tendered to any individual at the site who appears to be an employee of the person to whom the notice or order is issued. Service shall be complete upon tender of the notice or order and shall not be deemed incomplete because of refusal to accept.

(2) As an alternative to paragraph (a)(1) of this section, service may be made by sending a copy of the notice or order by certified mail or by hand to the person to whom it is issued or his designated agent. Service shall be complete upon tender of the notice or order or of the mail and shall not be deemed incomplete because of refusal to accept.

(b) A show cause order may be served on the person to whom it is issued in either manner provided in paragraph (a)(2) of this Section.

(c) Designation by any person of an agent for service of notices and orders shall be made in writing to the appropriate regional, district or field office of the Office.

(d) The Office shall furnish copies of notices and orders to the State regulatory authority, if any, promptly after their issuance. The Office may furnish copies to any person having an interest in the coal exploration, surface coal mining and reclamation operation, or the permit area, such as the owner of the fee, a corporate officer of the permittee or entity conducting coal exploration, or the bonding company.

§843.15
Informal public hearing.

(a) Except as provided in paragraphs (b) and (c), a notice of violation or cessation order which requires cessation of mining, expressly or by necessary implication, shall expire within 30 days after it is served unless an informal public hearing has been held within that time. The hearing shall be held at or reasonable close to the mine site so that it may be viewed during the hearing or at any other location acceptable to the Office and the person to whom the notice or order was issued. Expiration of a notice or order shall not affect the Director's right to assess civil penalties for the violations mentioned in the notice or order under 30 CFR 845 (civil penalties). For purposes of this section, mining means extracting coal from the earth or coal waste piles and transporting it within or from the permit area.

(b) A notice of violation or cessation order shall not expire as provided in paragraph (a) of this Section if the condition, practice or violation in question has been abated or if the mine site hearing has been waived.

(c) The Office shall give as much advance notice as is practicable of the time,place, and subject matter of the informal hearing to:

(1) The person to whom the notice or order was issued,

(2) Any person who filed a report which led to that notice or order; and

(3) The State regulatory authority, if any.

(d) The Office shall also, post notice of the hearing at the regional, district or field office closest to the mine site, and publish it, where practicable, in a newspaper of general circulation in the area of the mine.

(e) Section 554 of Title 5 of the United States Code, regarding requirements for formal adjudicatory hearings, shall not govern informal hearings. A informal hearing shall be conducted by a representative of the Office, who may accept oral or written arguments and any other relevant information from any person attending.

(f) Within five days of the close of the informal hearing, the Office shall affirm, modify, or vacate the notice or order in writing. The decision shall be sent to --

(1) The person to whom the notice or order was issued;

(2) Any person who filed a report which led to the notice or order; and

(3) The State regulatory authority, if any.

(g) The granting or waiver of a informal hearing shall not affect the right of any person to formal review under Sections 518(b), 525, or 521(a)(4) of the Act. At such formal review proceedings no evidence as to statements made or evidence produced at an informal hearing shall be introduced as evidence or to impeach a witness.

§843.16
Formal review of citations.

(a) A person issued a notice of violation or cessation order under 30 CFR 843.11 or 843.12, or a person having an interest which is or may be adversely affected by the issuance, modification, vacation or termination of a notice or order, may request review of that action by filing an application for review and request for hearing, under 43 CFR Part 4, within 30 days after receiving notice of the action.

(b) The filing of an application for review and request for a hearing under this Section shall not operate as a stay of any notice or order, or of any modification, termination or vacation of either.

§843.17
Failure to give notice and lack of information.

No notice of violation, cessation order or order revoking or suspending a permit may be vacated for failure to give the notice to the State regulatory authority required under 30 CFR 842.11(b)(1))ii)(B) or because it is subsequently determined that the Office did not have information sufficient, under 30 CFR 842.11(b)(1)(i) and 842.11(b)(2) to justify an inspection.

§843.18
Inability to comply.

(a) No order to show cause, cessation order or notice of violation issued under this Part may be vacated because of inability to comply.

(b) Unless caused by lack of diligence, inability to comply may be considered only in mitigation of the amount of civil penalty under 30 CFR 845 and of the duration of the suspension of a permit under 30 CFR 843.13(e).

§843.19
Injunctive relief.

The Office may request the Attorney General of the United States to institute a civil action for relief, including a permanent or temporary injunction, restraining order or any other order, in the district court of the United States for the district in which the surface coal mining and reclamation operation is located or in which the person to whom the notice of violation or order has been issued has his principal office, whenever that person or his agent, in violation of the Act, this Chapter, any applicable program, or any permit condition imposed under the Act, this Chapter, or that program:

(a) Violates or fails or refuses to comply with any order or decision of the Secretary or an authorized representative of the Secretary under the Act, this Chapter or any applicable program for which the Office is the regulatory authority or which the Office is enforcing pursuant to § 504 (b) or § 521 (b) of the Act;

(b) Interferes with, hinders or delays the Secretary or an authorized representative of the Secretary;

(c) Refuses to admit an authorized representative of the Secretary to a mine;

(d) Refuses to permit inspection of a mine by an authorized representative of the Secretary;

(e) Refuses to furnish any required information or report;

(f) Refuses to permit access to or copying of any required records; or

(g) Refuses to permit inspection of monitoring equipment.

PART 845 -- CIVIL PENALTIES

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845.20 Final assessment and payment of penalty.

Authority: Secs. 102, 201, 501(b), 517, 518, 521, 523 and 525 of Pub. L. 95-87, 91 Stat. 448, 449, 468, 498, 499, 504, 510, and 511 (30 U.S.C. 1202, 1211, 1251, 1267, 1268, 1271, 1273 and 1275.)

§845.1
Scope.

This Part covers the assessment of civil penalties under Section 518 of the Act with respect to cessation orders and notices of violation issued under Part 843 (Federal enforcement).

§845.2
Objective.

Civil penalties are assessed under Section 518 of the Act and this Part to deter violations and to ensure maximum compliance with the terms and purposes of the Act on the part of the coal mining industry.

§845.11
How assessments are made.

The Office shall review each notice of violation and cessation order in accordance with the assessment procedures described in 30 CFR 845.12, 845.13, 845.14, 845.15, and 845.16 to determine whether a civil penalty will be assessed, the amount of the penalty, and whether each day of a continuing violation will be deemed a separate violation for purposes of the total penalty assessed.

§845.12
When penalty will be assessed.

(a) The Office shall assess a penalty for each violation contained in a cessation order.

(b) The Office shall assess a penalty for each violation contained in a notice of violation, if the violation is assigned 31 points or more under the point system described in 30 CFR 845.13.

(c) The Office may assess a penalty for each violation contained in a notice of violation assigned 30 points or less under the point system described in 30 CFR 845.13. In determining whether to assess a penalty, the Assessment Office shall consider the factors listed in 30 CFR 845.13(b).

§845.13
Point system for penalties.

(a) The Office shall use the point system described in this section to determine the amount of the penalty and, in the case of notices of violation, whether a mandatory penalty should be assessed as provided in 30 CFR 845.12(b).

(b) Points shall be assigned as follows:

(1) History of previous violations. The Office shall assign up to 30 points based on the history of previous violations. One point shall be assigned for each past violation contained in a notice of violation. Five points shall be assigned for each violation (but not a condition or practice) contained in a cessation order. The history of previous violations, for the purpose of assigning points, shall be determined and the points assigned with respect to a particular coal exploration or surface coal mining operation. Points shall be assigned as follows:

(i) A violation shall not be counted if it is the subject of pending administrative or judicial review or if the time to request such review or to appeal any administrative or judicial decision has not expired, and thereafter it shall be counted for only one year;

(ii) No violation for which the notice or order has been vacated shall be counted; and

(iii) Each violation shall be counted without regard to whether it led to a civil penalty assessment.

(2) Seriousness. The Office shall assign up to 30 points based on the seriousness of the violation, as follows:

(i) Probability of occurrence. The Office shall assign up to 15 points based on the probability of the occurrence of the event which a violated standard is designed to prevent. Points shall be assessed according to the following schedule: S80 15 I25 Probability of occurrence I05 Points I24 None 0 Insignificant I45 1-4 I24 Unlikely I45 5-9 I24 Likely I45 10-14 I24 Occurred I45 15 02

(ii) Extent of potential or actual damage. The Office shall assign up to 15 points, based on the extent of the potential or actual damage, in terms of area and impact on the public or environment, as follows:

(A) If the damage or impact which the violated standard is designed to prevent would remain within the coal exploration or permit area, the Office shall assign zero to seven points, depending on the duration and extent of the damage or impact.

(B) If the damage or impact which the violated standard is designed to prevent would extend outside the coal exploration or permit area, the Office shall assign eight to fifteen points, depending on the duration and extent of the damage or impact.

(iii) Alternative. In the case of a violation of an administrative requirement, such as a requirement to keep records, the Office shall, in lieu of paragraphs (i) and (ii), assign up to 15 points for seriousness, based upon the extent to which enforcement is obstructed by the violation.

(3) Negligence. (i) The Office shall assign up to 25 points based on the degree of fault of the person to whom the citation was issued in causing or failing to correct the violation, condition, or practice which led to the citation, either through act or omission. Points shall be assessed as follows:

(A) A violation which occurs through no negligence shall be assigned no penalty points for negligence;

(B) A violation which is caused by negligence shall be assigned 12 points or less, depending on the degree of negligence;

(C) A violation which occurs through a greater degree of fault than negligence shall be assigned 13 to 25 points, depending on the degree of fault.

(ii) In determining the degree of negligence involved in a violation and the number of points to be assigned, the following definitions apply:

(A) No negligence means an inadvertent violation which was unavoidable by the exercise of reasonable care.

(B) Negligence means failure to prevent or correct a violation due to indifference, lack of diligence, or lack of reasonable care, or the commission of an act which results in the same.

(C) A greater degree of fault than negligence means reckless, knowing, or intentional conduct.

(iii) In calculating points to be assigned for negligence, the acts of all persons working on the coal exploration or surface coal mining and reclamations site shall be attributed to the permittee/operator to whom the citation was issued, unless the permittee or operator establishes that they were acts of deliberate sabotage.

(4) Good faith in attempting to achieve compliance.

(i) The Office shall add points based on the degree of good faith of the person to whom the citation was issued in attempting to achieve rapid compliance after notification of the violation. Points shall be assigned as follows: S80 15 I25 Degree of Good Faith I05 Points I24 Rapid compliance I15 -1 to -10 I24 Normal compliance I15 0 I24 02

(ii) The following definitions shall apply under paragraph (b)(4)(i) of this section:

(A) Rapid compliance means that the person to whom the citation was issued took extraordinary measures to abate the violation in the shortest possible time and that abatement was achieved before the time set for abatement.

(B) Normal compliance means the person to whom the citation was issued abated the violation within the time given for abatement.

(iii) If the consideration of this criterion is impractical because of the length of the abatement period, the assessment may be made without considering this criterion and may be reassessed after the violation has been abated.

§845.14
Determination of amount of penalty.

The Office shall determine the amount of any civil penalty by converting the total number of points assigned under 30 CFR 845.13 to a dollar amount, according to the following schedule:

Points	Dollars	Points	Dollars	Points	Dollars
1	20	25	500	49	2,900
2	40	26	600	50	3,000
3	60	27	700	51	3,100
4	80	28	800	52	3,200
5	100	29	900	53	3,300
6	120	30	1,000	54	3,400
7	140	31	1,100	55	3,500
8	160	32	1,200	56	3,600
9	180	33	1,300	57	3,700
10	200	34	1,400	58	3,800
11	220	35	1,500	59	3,900
12	240	36	1,600	60	4,000
13	260	37	1,700	61	4,100
14	280	38	1,800	62	4,200
15	300	39	1,900	63	4,300
16	320	40	2,000	64	4,400
17	340	41	2,100	65	4,500
18	360	42	2,200	66	4,600
19	380	43	2,300	67	4,700
20	400	44	2,400	68	4,800
21	420	45	2,500	69	4,900
22	440	46	2,600	70 and above	5,000
23	460	47	2,700		
24	480	48	2,800		

(Pages 425 and 426 were deleted.)

§845.15
Assessment of separate violations for each day.

(a) The Assessment Office may assess separately a civil penalty for each day from the date of issuance of the notice of violation or cessation order to the date set for abatement of the violation. In determining whether to make such an assessment, the Office shall consider the factors listed in 30 CFR 845.13 and may consider the extent to which the person to whom the citation was issued gained any economic benefit as a result of a failure to comply.

For any violation which continues for two or more days and which is assigned more than 70 points under 30 CFR 845.13(b), the Office shall assess a civil penalty for a minimum of two separate days.

(b) Whenever a violation contained in a notice of violation or cessation order has not been abated within the abatement period set in the citation, a civil penalty of not less than $750 shall be assessed for each day during which such failure continues, except that, if the person to whom the notice or order was issued initiates review proceedings with respect to the violation, the abatement period shall be extended as follows:

(1) If the Secretary orders suspension of the abatement requirements of the notice or order in a proceeding under Section 525 of the Act, after determining that the person to whom the citation was issued will suffer irreparable loss or damage from the application of the requirements, the period permitted for abatement shall not end until the date on which the authorized representative of the Secretary issues a final order with respect to the violation in question; and

(2) If the person to whom the notice or order was issued initiates review proceedings with respect to the violation, the daily assessment of a penalty shall not be made for any period during which the obligations to abate have been suspended by the Office of Hearings and Appeals or by the court as mentioned in 518(h) of the Act.

§845.16
Waiver of use of formula to determine civil penalty.

(a) The Director, upon his own initiative or upon written request received within 15 days of issuance of a notice of violation or a cessation order, may waive the use of the formula contained in 30 CFR 845.13 to set the civil penalty, if he determines that taking into account exceptional factors present in the particular case, the penalty is demonstrably unjust. However, the Director shall not waive the use of the formula or reduce the proposed assessment on the basis of an argument that a reduction in the proposed penalty could be used to abate violations of the Act, this Chapter, any applicable program, or any condition of any permit or exploration approval. The basis for every waiver shall be fully explained and documented in the records of the case.

(b) If the Director waives the use of the formula he shall use the criteria set forth in 30 CFR Section 845.13(b) to determine the appropriate penalty. When the Director has elected to waive the use of the formula, he shall give a written explanation of the basis for the assessment made to the person to whom the notice or order was issued.

§845.17
Procedures for assessment of civil penalties.

(a)· Within 15 days of service of a notice or order, the person to whom it was issued may submit written information about the violation to the Office and to the inspector who issued the citation. The Office shall consider any information so submitted in determining the facts surrounding the violation and the amount of the penalty.

(b) The Office shall serve a copy of the proposed assessment and of the worksheet showing the computation of the proposed assessment on the person to whom the notice or order was issued, by certified mail, within 30 days of the issuance of the citation. If the mail is tendered at the address of that person set forth in the sign required under 30 CFR 816.11, or at any address at which that person is in fact located, and he refuses to accept delivery of or to collect such mail, the requirements of this paragraph shall be deemed to have been complied with upon such tender.

(c) Unless a conferencee has been requested, the Office shall review and reassess any penalty if necessary to consider facts which were not reasonably available on the date of the proposed assessment because of the length of the abatement period. The Office shall serve a copy of any such reassessment and of the worksheet showing the computation of the reassessment in the manner provided in paragraph (b), within 30 days after the date the violation is abated.

§845.18

Procedures for assessment conference.

(a) The Office shall arrange for a conference to review the proposed assessment or reassessment, upon written request of the person to whom the notice or order was issued, if the request is received within 15 days from the date the proposed assessment or reassessment is mailed.

(b) (1) The Office shall assign a conference officer to hold the assessment conference. The assessment conference shall not be governed by Section 554 of Title 5 of the United States Code, regarding requirements for formal adjudicatory hearings. The assessment conference shall be held within 60 days from the date of the proposed assessment or the end of the abatement period, whichever is later.
(2) The Office shall post notice of the time and place of the conference at the regional, district or field office closest to the mine at least 5 days before the conference. Any person shall have a right to attend and participate in the conference.

(3) The conference officer shall consider all relevant information on the violation or order. Within 30 days after the conference is held, the conference officer shall either:
(i) settle the issues, in which case a settlement agreement shall be prepared and signed by the conference officer on behalf of the Office and by the person assessed; or
(ii) affirm, modify (higher or lower) or vacate the penalty. (If a settlement agreement has been rescinded, the conference officer shall decide on the penalty within 30 days from the date of the rescission.)
An increase or reduction of a proposed civil penalty assessment of more than 25 percent and more than $500 shall not be final and binding on the Secretary, until approved by the Director or his designee.

(c) The conference officer shall promptly serve the person assessed with a notice of his action in the manner provided in 30 CFR 845.17(b) and shall include a worksheet if the penalty has been reassessed. The reasons for the conference officer's action shall be fully documented in the file.

(d) If a settlement agreement is entered into, the person assessed will be deemed to have waived all rights to further review of the violation or penalty in question, except as otherwise expressly provided for in the settlement agreement. The settlement agreement shall contain a clause to this effect.

If full payment of the amount specified in the settlement agreement is not received by the Office within 30 days after the date of signing, the Office may enforce the agreement or rescind it and proceed according to paragraph (b)(3)(ii)

(e) The conference officer may terminate the conference when he determines that the issues cannot be resolved or that the person assessed is not diligently working toward resolution of the issues.

(f) At formal review proceedings under Sections 518, 521(a)(4), and 525 of the Act, no evidence as to statements made or evidence produced at a conference shall be introduced as evidence or to impeach a witness.

§845.19
Request for hearing.

(a) The person charged with the violation may contest the proposed penalty or the fact of the violation by submitting a petition and an amount equal to the proposed penalty or, if a conference has been held, the reassessed or affirmed penalty to the Office of Hearings and Appeals (to be held in escrow as provided in paragraph (b)) within 30 days from receipt of the proposed assessment or the date of service of the conference officer's action, whichever is later. The fact of the violation may not be contested, if it has been decided in a hearing under 30 CFR 843.16.

(b) The Office of Hearings and Appeals shall transfer all funds submitted under paragraph (a) to the Assessment Office, which shall hold them in escrow pending completion of the administrative and judicial review process, at which time it shall disburse them as provided in 30 CFR 845.20.

§845.20
Final assessment and payment of penalty.

(a) If the person to whom a citation is issued fails to request a hearing as provided in 30 CFR 845.19, the proposed assessment shall become a final order of the Secretary and the penalty assessed shall become due and payable upon expiration of the time allowed to request a hearing.

(b) If any party requests judicial review of a final order of the Secretary, the proposed penalty shall continue to be held in escrow until completion of the review. Otherwise, subject to paragraph (d) of this section, the escrowed funds shall be transferred to the Office in payment of the penalty, and the escrow shall end.

(c) If the final decision in the administrative and judicial review results in an order reducing or eliminating the proposed penalty assessed under this part, the Assessment Office shall within 30 days of receipt of the order refund to the person assessed all or part of the escrowed amount, with interest from the date of payment into escrow to the date of the refund at the rate of 6 percent or at the prevailing Department of the Treasury rate, whichever is greater.

(d) If the review results in an order increasing the penalty, the person to whom the citation was issued shall pay the difference to the Assessment Office within 10 days after receipt of the order.

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